2001

Missouri State of the State Information Technology Report

Missouri Office Of Information Technology

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Office of Information Technology

Overview

Required by Missouri State Statue, The State of the State IT Report is submitted annually by the Office of Information Technology (OIT). This office serves as the focal point for the state's information technology issues and initiatives. Directed by Missouri's Chief Information Officer, Gerry Wethington, the organization is responsible for areas such as IT policy and strategic planning, e-government, enterprise architecture and standards, project management and risk assessment, project oversight, and several other related initiatives. The office continues to work with the Office of Budget and Planning in the area of project oversight and risk assessment and a successful, collaborative relationship continues with the Office of Administration Division of Purchasing in the area of statewide IT contract procurement.

New initiatives this year include the development of a statewide strategy for an integrated criminal justice system and the initial creation of a total cost of ownership/return on investment program. OIT staff also work closely with the agencies in other areas such as IT personnel recruitment and retention, IT education and training, and statewide IT strategic planning. The Office of Information Technology also represents Missouri's IT interests nationally in a number of important initiatives.

Listed below are the highlights of the major initiatives supported by the Office of Information Technology during 2001. They are ongoing projects and will be continued into this next calendar year and beyond.

E-Government

Missouri's first e-government initiative got underway this past calendar year. This initiative will enable Missouri State Government to interact electronically with citizens, businesses and other governmental entities, thus creating the ability to pay taxes, renew motor vehicle licenses and professional registrations, make state park reservations, and a host of other activities via the World Wide Web.

Beginning in calendar year 2000, a State of Missouri e-government architecture study was conducted to provide a strategic analysis of the state's current IT architecture and

readiness for e-government. Also, a State of Missouri E-Government Report and Plan, identifying specific agency applications that are candidates for e-government was created to serve as the basis for the FY02 appropriation request and a new E-Government Report and Plan detailing the FY03 appropriation request will soon be available. These documents may be accessed at www.oit.state.mo.us.

From the FY02 e-government appropriation request, OIT received a reduced amount of funding from its initial request. This amount enables OIT to begin to define the e-government architecture and standards, develop the infrastructure RFP, support the development of five pilot projects, create a portal prototype and begin to purchase the products and services necessary to implement the portal prototype prior to the end of FY02.

Currently submitted to the Office of Budget and Planning is an e-government FY03 appropriation request. It is described within three categories with the intent to continue the development and implementation of an e-government solution in order to interact electronically with citizens, businesses and other governmental entities. Those categories consist of (1) the continuing development of an infrastructure and portal to provide simple access as a "single-point-of-contact", (2) business-to-business (B2B), or government-to-business system to allow Missouri State Government to interact with vendors via the Internet, and (3) numerous agency web candidate applications that will provide services to citizens and businesses. Funding of this request will allow the State of Missouri to move forward in providing electronic services to businesses and citizens.

Enterprise Architecture

One of the primary areas of responsibility for the Office of Information Technology is the development of an enterprise architecture that facilitates business system sharing across departmental lines of responsibility. The information technology community as well as business components have developed an understanding of the need to share information. Much of this understanding has come from the proliferation of the Internet and the citizen demand for a singular view of state government. Departmental functional boundaries and stovepipe applications have created barriers to information sharing and have hampered the state's ability to react to citizen requests.

In order to share information across a number of federated agencies, there must be standards that allow interaction and interoperability. The intent of the state's architecture project is to build an infrastructure that is based on a common set of standards used by all departments. These standards allow for integration across department boundaries, ensuring that each department can appropriately access information from other agencies when necessary. This concept of standardization is readily apparent in other engineering development efforts and needs to be applied to the information technology realm.

This year the Office of Information Technology, in conjunction with Information Technology Advisory Board (ITAB), approved an architecture governance model that addresses how the State of Missouri information technology community will manage the

state's architecture efforts. This governance model includes the organizational structure that manages architecture and also identifies the processes associated with it. The development of this architecture model included identifying the business drivers, defining principles and documenting best practices and industry trends. The organization structure includes various committees and assigns specific responsibilities related to architecture. The processes defined include a compliance process and a variance process along with the vitality process that keeps the architecture current.

The next steps in architecture will be to elaborate on the architectural components that have been defined and begin to document the standards that will drive technology investments.

Performance Measurement

In July of 2000, as a result of a coordinated effort between the Office of Information Technology, Office of Budget and Planning and the Information Technology Advisory Board, a Performance Measurement Committee was formed. This committee developed a project data sheet to capture a standard set of information on all Information technology projects.

This year a new Information Technology Advisory Board sub-committee will begin implementation of this methodology. The key objectives will be to identify who will be responsible for gathering, updating and maintaining the information, how and where it will be gathered and stored, and how the information will be retrieved and used to baseline, monitor, manage, align and improve performance at all levels and for any area of project management.

Information will then be gathered and used as a management tool to focus resources where they can have a measurable impact on agency and state strategic objectives.

Project Management Initiative

To ensure our information technology investments serve the business goals of the state, the Office of Information Technology continues to support and promote the project management policies, guidelines and best practices adopted by the Information Technology Advisory Board last year. A new training contract has been awarded and the program is being customized to better meet the needs of the state's information technology community.

With new e-government initiatives being developed and the need for collaboration between agencies to share data across diverse platforms, it has become apparent that a standardized methodology of project management tracking and reporting is needed. As project managers from individual agencies work together toward a common set of goals and objectives, it only makes sense that they share a common language or methodology of project management. This shared language has been identified in the Missouri Information Technology Project Management Methodology Manual, which is currently

on version 1.3 and will continue to be updated as new and revised best practices are identified.

Project oversight requirements have been identified and are currently being tested on a pilot project. Feedback from this project will be used to refine the oversight process.

New thresholds have been established for risk management requiring less effort on repetitive, low-risk projects while maintaining the increased chance of successful completion of medium to high-risk projects.

Project Oversight

To improve the general quality and cost efficiencies of state technology projects, the Office of Information Technology, in partnership with the Information Technology Advisory Board, introduced into Missouri state government a formal project management methodology with project management training and certification. Collectively these administrative bodies oversee and monitor progress and achievements of state technology projects.

While Missouri state government is committed to the concept of project management and has put in place guidelines on how to clearly define project plans with key milestones along the way, sound project management can only be complete by closing the loop with an effective project oversight program. One that balances the effectiveness of the project plan by evaluating how well the project is doing at achieving performance goals and objectives.

The project oversight program specifically focuses on evaluating and communicating overall project performance on a regular basis to provide confidence that the project will satisfy the intended business result and be completed on time and within budget. Essentially, the program acts as a check-and-balance for project management processes such as risk management, cost management and resource management, to help ensure that the right things are done, and that things are done right. It is designed to provide the business unit, project sponsors and other managers with validated and unbiased information about a project's true status, performance trends and forecast for completion.

The program's objective is to ensure that projects are being managed in compliance with project plans, that sound management practices are being observed, that contractors are delivering on their contracts, that projects are adequately staffed, and that schedules are reasonable and are being met. The rewards from this program will help provide for a higher return and a lower capital investment on a project.

Together the Office of Information Technology and the Information Technology Advisory Board have made integrating the principles of quality into technology projects a top priority by instituting formal project oversight criteria. This program offers a very real opportunity to ensure sound management and stewardship of the state's resources as the state's business and technology community's focus on quality initiatives.

Missouri Value Assessment Program (MoVAP)

A program to determine total cost of ownership (TCO) and return on investment (ROI) for Missouri's business projects is underway to assess the value business projects bring to the citizen. This program will help answer the question, "Should a business project be undertaken if the cost to create, implement and maintain is greater than the value/savings returned to state government and ultimately the citizen?" While some business projects will truly generate a fiscal return on investment, others will only generate goodwill, i.e., better service and improved citizen satisfaction. This program is designed to uncover these issues and contribute to fully informed decisions.

The Missouri Value Assessment Program (MoVAP) framework will be utilized statewide across all agencies. This will provide a common, repeatable format that is important to the appropriation decision-making process. Initially the program will be utilized for agency e-government project appropriation requests. An initial draft of the program has been developed and is in a review process being conducted by a committee consisting of representatives from the Information Technology Advisory Board (ITAB). Pilot projects will be selected to provide a "proof of concept" review prior to statewide deployment. Once the Missouri Value Assessment Program utilizing the TCO/ROI model is implemented and historical data is available, this will become an important tool for agencies to showcase their accomplishments and the positive impact of their programs on Missouri citizens.

Criminal Justice Integration

The Office of Information Technology is home to the development of a statewide strategy for an integrated criminal justice system that addresses enhanced efficiency of operations and improved public safety. By engaging a representative body from the various justice disciplines, the policy, legislative, administrative, operational and technology issues involved in criminal justice integration in the state are being addressed.

Strategically, Missouri is seeking to integrate justice systems in response to the increase in public demand, being driven at the local level, for accountability, effectiveness and responsiveness. There are increased expectations regarding the ability of justice agencies to proactively respond to community needs with high-risk and repeat offenders. And, there is increased public demand for electronic access to information and services as well as the need for extended hours of operation.

Beyond improving the internal operations of our justice agencies, this project will enable the sharing of critical information between police officers, court administrators, corrections officers, and other officials at the federal, state and local levels. This integration effort encompasses a variety of functions designed to enable the timely and efficient sharing of information within and between agencies. Missouri's Criminal Justice Information Sharing Model identifies four phases for cross-agency data sharing which are: 1) determining what information should be shared and an analysis of how that is occurring today, 2) developing information sharing policies and procedures, 3)

demonstrating the sharing process with a pilot project, 4) and finally, transitioning the pilot project into a fully automated, sustained, operational system.

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Office of Administration

Accomplishments

SAM II

The remaining nineteen state agencies were successfully converted to the Human Resource (HR) System as part of the phased implementation plan. An HR Help Desk was staffed for most of the year to assist agencies with general questions and guidance to complete successful payrolls. Statewide pay cycles ran almost without incident from a technical standpoint. The HR Data Warehouse was also successful in that agencies rely upon it heavily for internal reporting. Much more data is available to agencies than in the older systems such as PARS.

Additional subsystems of the HR system including Applicant Tracking and Employee Relations were enabled. Agencies can enter applicant information into the system that then becomes a part of the HR core system once the applicant is hired. An employee's training information can be stored in the Employee Relations Subsystem. A plan is under way to develop an interface from the OA Training and Tracking System to the new Employee Relations System (ERS) to eliminate double entry of data. The ERS will also create a statewide repository of training related data.

Optimization was an essential and critical task for SAM II both in terms of operational costs and efficiency. Optimization efforts included: reviewing and reducing the number of system backups taken, removing non-critical jobs from daily cycles and related pay cycles and making them requestable, reducing redundant files, use of MOBIUS to eliminate paper and print costs, and overall tuning of some inefficient processes.

A new version of the Financial Data Warehouse was implemented late in the year. It was practically a re-design of the older version. It is less complex, yet more accurate with much better reconciliation procedures. It also closely mirrors the operational Financial System.

MOBIUS

MOBIUS provides the capability to index and secure reports so they can be viewed online. Various systems moved toward the capabilities of MOBIUS to decrease print and

paper costs. SAM II was the biggest system to make this transition. SDC print costs dropped over $10,000 in the first month alone for SAM II. Agencies continue to review systems that could be moved to MOBIUS.

Virtual Tape Library (VTS)

In October 2001 a Virtual Tape Library (VTS) was installed in the State Data Center. The Department of Labor and Industrial Relations (DOLIR) manual tape mounts were the first moved to production. They saw their production batch workload reduced by around 2 hours of wall clock time. As one would suspect, DOLIR is very ecstatic about reducing their run times on batch with a minimal amount of work by them. We have focused on moving agencies that still have manual tape mounts into production. DOLIR, DED and MSHP are the three agencies that have been moved into production. Division of Information Services is planning on having all agencies on the VTS by the end of the calendar year.

E-Government Infrastructure

The Division of Information Services (DIS) has built a production environment to support e-government applications for several agencies on the Unix System Services section of OS/390. The production environment includes environments for testing, backups and live production applications. Several staff have been trained in supporting this new environment, but the number of staff at DIS has not been increased. We work closely with several sections of the Department of Revenue (DOR) to ensure we are able to support their applications and timelines for moving these applications to production. Two OS/390 firewall LPARS have been built to help ensure the legacy environment is as safe as we can make it.

The Division of Information Services supports the hardware and software infrastructure that many agencies are using to support e-government applications. Along with providing this support, we also assist in debugging and trouble shooting application code when problems are encountered. This level of support requires a broad level of expertise. At this time the Department of Revenue and Department of Social Services are the primary users. Department of Labor and Industrial Relations and the Office of Information Technology are also players within this environment. The Department of Revenue included the Division of Information Services in an immersion project so that we would have a better understanding of their business requirements and timelines for their e-government projects.

The types of applications being supported are:
   Department of Revenue:
   • ESP (Enhanced Sampling Program) - Used to collect insurance information DOR can then use for motor vehicle purposes.
   • COREG (Consolidated Registration) - (Designed with support from DOLIR) This system provides "one stop" registration for new businesses that contact DOR or DOLIR requesting registration for withholding tax, use tax, corporate tax, unemployment tax, tire fee, FEIN (Federal Employer ID Number), and/or franchise tax.

- WebFile - This allows state citizens to file their personal income tax online.
- MORE - Vehicle renewal online.
- Fuel Tax - Allows submittal of fuel tax information online.

Department of Social Services:
- EDL (Employee Disqualification List) - Allows nursing homes and hospitals to check the status of applicants applying for employment. This list is used to disqualify individuals with unacceptable records.

These are the primary applications running within our environment at this time. To support these applications we have created a "web environment" within our OS/390 environment. This includes a primary knowledge base within Unix System Services, WebSphere, OS/390 operating system, network, database and security systems to name a few. We have built two firewall LPAR's within our OS/390 environment in addition to existing firewall services to support secure transport of data from applications on the "public" side of the network to the "private" side for data processing.

We have and are continually researching and testing new technologies that may be required by customers in the future. We have background in HTML, JAVA, C, Visual languages and C++ to name a few. In addition to language support, inevitably some level of knowledge is required for the IDE and development tools used to code and create applications such as VisualAge for Java. An example of support required: DOR develops some applications using VisualAge for JAVA on an NT system. They test the application running WebSphere on NT. The application must them be ported to run on WebSphere OS/390, non-published incompatibilities have existed running within the same product under two different environments. These inconstancies had to be determined through extensive testing and research.

We are supporting two "production" LPARS that are load balanced to provide 24 x 7 delivery. Including the firewall LPARS, there are four LPARS used to support e-government. A test and development environment exists as well between two other LPARS. We also currently support 20 web servers. For every application, at least four layers of support exist, including production, backup, test, and development. This indicates that for each new web application added it exists at least four times, which is the minimum defined for successful management of these applications.

In terms of network infrastructure we have installed and are supporting switching equipment, firewalls and load balancing to support e-government.

Missouri Technical Training & Education Center (MOTEC)
MOTEC is dedicated to promoting technical education throughout state government and facilitating access to all varieties of technical education. Examples are coordinating access to computer based training (NETg and Mindleaders) statewide, developing a centralized development base for web delivered training (Flash), and creating a regional network of communication designed to provide needed technical education across the

state. Our most recent accomplishment is the successful delivery of a web-based training effort for the Department of Health and Senior Services that focused on data security.

Planned Projects

SAM II

❑ Develop and implement data archival strategies and procedures. Data archiving will be a tremendous project as a result of the large volume of data generated in SAM II and subsequently into the Data Warehouses.

❑ Consider the possibility of adding an Employee Self Service system that will be compatible with SAM II.

❑ Upgrade HR to the next release level. Since HR was implemented in a phased approach, upgrades were frozen until the system was fully converted and stabilized. This caused HR to fall behind in versions and will require a large effort to upgrade.

❑ Assist the Division of Accounting in converting records for the Fixed Assets Subsystem.

MOBIUS

❑ Convert additional systems to MOBIUS. The Telephone Billing System will transition all of its reports and bills in 2002. Other systems will be converted as demand occurs.

Imaging

❑ Convert the Division of Accounting and the Division of Personnel's images from the antiquated AS400 platform to a more robust client-server system. The new version of the imaging system has been upgraded which is called Acorde (previously named Optika). It is web-enabled and will allow more functionality for the agencies.

Roll Checks

A project to move checks to a roll feed system will be implemented in July 2002 which is expected to reduce reject rates on checks currently printed from boxes. The boxes create a situation where the MICR line is less durable due to the crease in the forms. This situation has increased the number of rejected checks resulting in cost to the state. Printing checks from a roll is anticipated to reduce the number of rejected checks.

Network Transport Bid

The Network Transport Bid will be bid during Fiscal Year 2002. This bid will replace the current private network for the majority of the data services. Plans and service order activity will begin prior to the end of the fiscal year and continue on in to the next.

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Department of Agriculture

Accomplishments

Network Upgrade

MDA IT personnel converted our 16 Mb Token Ring network to 100 Mb Ethernet during the month of May 2001. The new network has a Gigabit Ethernet backbone and is based on switch technology rather that hub technology. In addition, line speeds were increased to several of our laboratories and to the State Data Center. The upgrade included all MDA clients and our maintenance staff (OA Facilities Management). This project was completed on time and will save the department money in terms of new personal computer purchases, personnel productivity, 800 number expenses, and reduced down time.

AS/400 Upgrade

Our AS/400 620 was upgraded to a model 820 in conjunction with the Network Upgrade. The new model 820 supports Gigabit Ethernet and provides improved performance. This upgrade decreased our backup time from eight hours to four hours, which allows our remote users increased system availability.

Electronic Certificates

The Grain Industry requested Electronic Grain Inspection Certificates to be provided as an option. Our staff has designed, developed, and tested electronic certificates in accordance with USDA requirements. This enhancement to the system will save time and money for the industry as well as MDA.

Boll Weevil System

A Boll Weevil System was requested to track collections for Boll Weevil eradication for the State of Missouri. Over $4,000,000.00 has been collected for this purpose. These monies will provide personnel, equipment, traps, and spray to eradicate the Boll Weevil from the state. The system was designed, developed, and implemented on time.

ACFA System

The ACFA System tracks inspections and license fees for the Animal Health Division. Inspections are done by Animal Health Officers via their laptop personal computer. The system provides the officers a wealth of information such as license status, previous inspections, and any outstanding violations. Once the inspection is completed, the information is uploaded to our centralized AS/400 database for review. The centralized database provides for the licensing and accounting functions for Missouri's dog kennels.

Fleet Management System

The Fleet Management System was implemented to track MDA's vehicles. This system tracks cost, mileage, and the availability of pool vehicles.

New Three-year Personal Computer Replacement Policy

This policy ensures MDA employees have the technology required to perform their duties while eliminating the need to repair obsolete equipment. This policy has enhanced the productivity of our employees and will increase in value as our customers utilize technology to do business with MDA. This policy requires personal computers to be replaced within three years, which is their warranty period. Sixty personal computers were replaced during fiscal year 2001. (In light of the state's tight budget, this policy may be modified to a four-year replacement plan.)

Helpdesk

Our helpdesk responded to 3298 calls for service, 3216 of which were completed by IT staff. This application was written by MDA staff in Lotus Notes and is used to log all calls related to IT services. Benefits of this function include faster response time to users, enhanced tracking of calls, and the ability to identify problem areas.

Performance Management

Our Performance Management System is focused on essential functions of the department, the outcome(s) or product(s) that the employee is responsible for, and the activities which will produce the desired outcomes. This system, in conjunction with our helpdesk, provides enhanced management of projects associated with achieving the departmental goals as outlined in our strategic plan.

Enhancements to Existing Applications

Change is constant in the field of IT. Several systems were enhanced to meet the "new" needs of our users this year. Those systems include: SAM II interface, Service Station System, LPG System, Milk Board System, Nursery Growers System, and the Corporate Farms System. As our users needs continue to change, IT will strive to meet those needs within the timeline allowed.

New Technologies

The use of personal digital assistants (PDA) was common for MDA personnel this year. Our users sync their PDA with Lotus Notes so that they have e-mail, calendaring, and contacts at their fingertips without the cost associated with a laptop.

WEB Efforts

This year, our staff received training in PERL and has developed database searches as well as on-line surveys to enhance our WEB site. The ability to perform these functions in-house will improve our capabilities to provide the service to our customers.

Security Efforts

E-mail borne viruses have plagued many organizations this year. At MDA we have taken several steps to protect our infrastructure from viruses. Those include the MDA Internet Acceptable Use Policy, Internet traffic is randomly monitored, the Helpdesk quickly alerts users of potential viruses, and certain file types used by viruses are filtered by Lotus Notes prior to the user receiving the e-mail. We have been fortunate in regard to the number of MDA personal computers affected by viruses.

Training

MDA has moved its training facility to a larger room to accommodate more students per class. This facility is used for in-house training provided by MDA's IT staff for its supported software products.

A cross-training program of IT personnel has been implemented to ensure support of essential departmental functions. Professional training was provided to all IT personnel for Lotus Notes Domino. Computer Based training is available for all MDA employees for the Microsoft Office 2000 Suite.

Planned Projects

E-Government

MDA will participate in the statewide e-government initiative. It is our intention to provide this new delivery system to our customers when funding becomes available.

Office Vision Conversion

It is imperative that we convert all Office Vision documents to Microsoft Word documents this year. Office Vision will no longer be supported the next time we upgrade OS/400. Most of our users are currently using Microsoft Word. The documents that will be targeted for this conversion are the merge-type documents that run in conjunction with AS/400 programs and procedures.

Application Development

The MASBDA, Seed, and Petroleum Systems are designated as the next three systems to be implemented. System enhancements will be made to our WEB site, SAM II interfaces, and the Animal Health Disease Tracking System.

Accumulated Demand

Currently, there are eighty-two open requests on our helpdesk. If no further requests were initiated, projected completion of these requests would be twelve to eighteen months. However, more requests will be initiated, as there will be an increased dependency on information technology to deliver services to our customers. Historically, during tight budget periods, organizations look to IT to provide efficiencies and cost savings. The demand for our services is increasing at an exponential rate while our resources, particularly personnel, remain relatively static. Therefore, if we are to succeed in meeting the needs of our customers, it is paramount that we dedicate the necessary resources and explore more efficient ways of producing the delivery systems that will meet those needs.

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Department of Conservation

Responsibilities and Activities

❑ Technology Planning
❑ Managing Department-wide Technology Budget
❑ Application Software Development
❑ Customer Technical Support
❑ Two-Way Radio Services and Support
❑ Telephone Services and Support
❑ Computer Operations
❑ Desktop Technologies
❑ Local Area and Wide Area Networking
❑ E-commerce and Intranet Services and Support

Accomplishments

❑ Developed and administered an executive computer-training program for MDC top level management.
❑ Prepared 500 purchase orders and processed invoices for new computer hardware and software as approved by the department's management team.
❑ Supported the State Executive Telecommunications Advisory Council (SETAC) that prepared FY 02 telecommunications cost allocation plan for the OA Division of Information Systems. Jim Lundsted was the SETAC chairman this year.
❑ Supported the International Association of Fish and Wildlife Agencies (IAFWA). Jim Poole was chairman of the Information Management Work Group, and was also on the Information/Education Committee and the Automated Wildlife Data System Committee.
❑ Provided a total of 272 training classes for 49 IT staff members.
❑ Revised and distributed the Information Technology Plan to senior management.
❑ Maintained and supported 19 Clipper applications, 11 Access applications, and 11 Visual Basic (VB) applications on the PC platform and 9 COBOL applications on the AS/400.

- Provided technical assistance, formatting, and posting of 200 HTML pages, 120 Active Server pages, and 250 PDF pages on the MDC Intranet.
- Completed phase one of RAPTOR, a new financial and work management system that interfaces with SAM II and provides functionality for work planning, budgeting, expenditure tracking and reporting accomplishments. Phase one includes work planning and budgeting modules.
- Completed phase one implementation of a web-enabled Human Resources supplemental system which will provide functionality not currently provided by SAM II, including training records, applicant tracking, web-based benefit enrollment, drug testing and time and leave reporting. Phase one includes implementation of the client-server component.
- Completed implementation of a new Optical Character Reading system that will initially be used to manage deer check station data, but will eventually be rolled out for other department imaging applications. Includes installing OCR hardware, server and workstations for the new system.
- Responded to 293 requests for programming technical assistance and 56 programming modifications in response to bug reports and enhancement requests.
- Processed 174 data requests requiring database modification or custom report development.
- Upgraded Oracle from version 8.05 to 8i.
- Completed fully automated backups of the Oracle database, recovery, change management and other activities necessary to implement ORACLE in the PROD environment.
- Completed MDC's first electronic commerce application that allows sales of publications, clothing and trinkets over the World Wide Web.
- Developed a new application module on the AS/400 for Fiscal to track and process Landowner Multiple Deer Units.
- Completed implementation of SAM II HR package.
- Completed Conservation Agents PC Program with installation of PCs for the last 85 conservation agents.
- Completed implementation of a new inventory system for the warehouse to support e-commerce applications.
- Developed a Generic Draw application in VB to perform the random drawings operating on data from the Managed Deer Hunt and Waterfowl Reservation IVR systems to generate hunt draw results.
- Developed a Ginseng Harvest tracking application in VB for Natural History that replaced an old Clipper system to maintain a database of all ginseng transactions in the state.
- Developed Microsoft Access applications that provided new capabilities as well as replacing old Clipper systems. These systems include an Airplane Tracking system for General Services, a Wildlife Control Permit database for Private Lands, Hunting Method Exemption and Agent Commission Card programs for Protection, a major update of the Wildlife Collectors Permit program for Fiscal, a major upgrade of the Missouri Conservation Frontiers for Outreach and Education, and a revision of the Vegetation Monitoring program for Natural History to include a data collection program on the handheld data collectors.

- Replaced field servers at 17 field sites.
- Replaced 4 servers in Central Office and 2 at Columbia Research.
- Replaced tape backup system at Columbia Research and converted to department standard (Arc Serve).
- Upgraded 5 Wide Area Network (WAN) circuits to field offices.
- Installed three new local area networks (LAN) at field sites.
- Initiated conversion of the department's office toolkit from Corel WordPerfect Office to Microsoft Office XP. This conversion will span two fiscal year periods.
- Replaced 400 PCs with new Windows NT computers.
- Processed 7,470 trouble calls through the Help Desk.
- Completed 2,275 maintenance trouble tickets on PCs across the state.
- Supported an AS/400 print load of 45,701,163 lines.
- Supported an AS/400 workload of 313,615 jobs.
- Supported over 1,508 PCs, 33 LANs and 34 WAN locations across the state. Supported 1,355 e-mail users across four post offices statewide.
- Maintained an average 99.5% network availability throughout the year.
- Added core Cisco 6509 switch plus distribution Cisco 4912 switch and 16 closet access switches as part of the Central Office Ethernet conversion project.
- Completed implementation of Ethernet switching technology at the Central Office.
- Replaced IBM firewall with redundant Cisco PIX 520 firewalls.
- Added Cisco PIX 515 firewall to Central Technologies circuit for Point of Sale access.
- Replaced 32 network printers.
- Completed install of Microsoft System Management Server (SMS) on all NT workstations.
- Completed standards for moving to Windows 2000 as desktop operating system.
- Replaced telephone systems at fourteen locations across the state.
- Replaced 205 mobile and 100 portable radios.
- Installed a new radio system and implemented a Water Pump & Flume Level Alarm system at Roaring River hatchery.
- Convened a Quality Action Team to help determine a new standard for portable radios used by department staff. Members of the QAT represented Forestry, Fisheries, Private Lands and Protection.
- Resolved a long-standing radio interference problem between Missouri and Tennessee, as well as ten additional in-state interference complaints from outside causes.
- Secured an inter-agency interoperability agreement to share operational frequencies with the U.S. Forest Service, Mark Twain National Forest and State Fire Marshall's office for two additional mutual aid channels to coordinate wildfire fighting.
- Issued 7 requests for new FCC radio station licenses, and 12 requests for license modifications.
- Maintained over 1,628 telephones, 2 PBXs, 68 electronic Key Systems, numerous FAX machines, audio-visual and public address equipment at 115 locations across Missouri.
- Issued 188 purchase orders for radio equipment, service parts and tower maintenance.

- Issued 47 purchase orders for telephone equipment and wide area network services and 31 service orders for telephone service.
- Completed removal of a self-supported radio tower at Swan Lake National Wildlife Refuge and erected the tower for use at our Chillicothe office.
- Implemented automated attendant/voice mail services for our Northwest Region office and Shepherd of the Hills fish hatchery.
- Completed installation of new Forestry mobile relays at Sugar Camp and Hurley and new Protection relays at Mudlick Mountain, Kingsville and in Kansas City.
- Acquired four telecommunications site equipment shelters, installed two of them (Buffalo and Santa Fe) and retained the other two for future use.
- Maintained 80 tower sites, 91 base stations, 149 radio relays, 1,108 mobile radios and 964 portable radios.

Planned Projects

- Development of phase 2 of RAPTOR, a new financial and work management system that will interface with SAM II and provide functionality for work planning, budgeting, expenditure monitoring, tracking and reporting accomplishments. Phase two includes expenditures and accomplishment reporting modules.
- Development of phase 2 of the web-enabled Human Resources supplemental system which will provide functionality not currently provided by SAM II, including training records, applicant tracking, web-based benefit enrollment, drug testing and time and leave reporting. Phase two includes implementation of the web-enable component.
- Conversion from Token-Ring to Ethernet topology at various field offices that are undergoing remodeling or new construction.
- Complete programming of Contact Management System
- Forest programming of Fire Reporting System
- Complete relocation of all computer equipment from the computer room in the Central Office complex to the new Computer Room in the IT building Annex.
- Continue to upgrade circuits at our remote WAN sites.
- Install new telecommunications system and area radio system for the Kansas City Discovery Center.
- Complete conversion of the department's office toolkit from Corel WordPerfect Office to Microsoft Office XP.
- Conduct a network security audit.
- Install a new mobile relay site at Bennett Springs and at Novelty.
- Develop a five-year Telecommunications Plan.

Accumulated Demand

- Requests to build additional tower sites to improve portable radio coverage to levels as needed by field staff.

- ❑ Requests to provide access for field sites to the department's Distribution Center Inventory system.
- ❑ Request for a Warm Water Hatchery management system.
- ❑ Conversion of remaining AS/400 COBOL applications to new web-enabled environment.

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Department of Corrections

Accomplishments

Information Systems Infrastructure

As recommended by the 1999 Information Systems Infrastructure Review, an infrastructure related decision item was submitted for funding for the 2002 fiscal year. The funding requested would have supported the first of fourteen recommendations made in the study. In anticipation of receiving the recommended funding, several preparation activities were started in the first half of 2001. One of these activities was an OfficeVision Assessment study.

The OfficeVision study addressed the technical issues relating to the replacement of AS/400 software function within the department as the current vendor discontinues support for the product. The study focused on replacement of electronic mail and document processing functions, which are deeply embedded in offender management applications, and it made several recommendations regarding replacement strategies and products. These recommendations are currently being evaluated.

Because the fiscal year 2002 funding request was not approved, there was no additional progress made relating to the technical infrastructure issues that the 1999 study identified. Most information systems-related activity during 2001 focused on maintenance of the current infrastructure and existing applications. This approach will continue through the first half of 2002. Assuming that funding is approved in the FY03 budget, efforts in the second half of 2002 will once again focus on the implementation of recommendations contained in the study.

Support of SAM II

During calendar year 2001 a significant amount of effort was placed on development of management reports out of the new statewide SAM II Financial and Human Resource system. Because of the shortage of state staff, contractor support has been utilized to

develop ninety-seven reports needed by the department for information not available from the base system.

It is anticipated that the development of SAM II reports will continue to remain a priority through calendar year 2002. Because of limited state staff, the department will continue to rely on contract programmers to provide this service.

Computer Applications

During 2001, fifty-seven enhancements to the department's Offender Management System (OPII) were made. These additions were made at the direction of a user steering group, the Information Quality Task Force, which meets monthly to review and give direction regarding this important computer application. Numerous other changes to systems such as Medical Assessment, Visitation and Investigations were also made.

Two new applications were developed and implemented during 2001. The Training Management application is the first in the department to utilize client-server technology and a graphical user interface (GUI). Because of some problems and mandatory changes this application has been temporarily pulled from production and will be re-implemented in early 2002. The second application implemented was Grievance Management, which is designed to record and track the status and disposition of all offender related grievances filed in the department. These two applications were the first to be developed using the statewide standard CASE tool, Cool: PLEX.

Two additional applications, Visitation Management and Accident and Injury Tracking, have been developed are currently being tested by the customer. These are scheduled for implementation in the first half of 2002. These applications were also developed using the CASE tool.

Another application implemented was the Canteen Point-of-Sale system. This application supports the sale of items from institutional canteens to offenders using modern barcode scanning technology connected through a LAN to the central computer system where offender banking account records are updated at the time of the sale.

Additional work is underway to integrate the OPII Offender Management System with the Criminal Records System at the Missouri State Highway Patrol. The electronic interface between these systems should be in place by the end of the first quarter of 2002.

Network Support

Thirteen additional department locations were connected to the wide area network during 2001. New LANs, servers and workstations were installed in support of all of these. In

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all, approximately five hundred terminals, including thin-clients, and more than three hundred LAN-connected PCs were added to the network during this past year.

Additionally, five Probation and Parole offices with over 100 workstations were relocated. One new institution, South East Correctional Center, was opened at Charleston. Fifty-four networked PCs and ninety-two thin clients (in lieu of terminals) were installed in support of this facility and the first three housing units opened. LANs, servers and workstations supporting the new Canteen Point-of-Sale system were installed in twenty-three locations.

Additional accomplishments during 2001 included the upgrade of the department's Exchange server and the installation and implementation of a firewall. The department also installed a kiosk-based pilot project that enables incarcerated offenders to access banking account balances, etc., from a convenient location within the institution. Previously offenders were required to meet with their caseworker or go to the Canteen to determine balances.

The department's help desk function, the Customer Support Center, was significantly re-structured in 2001. This was one of the recommendations established by the 1999 Infrastructure Review. Although the funding request for additional staff was not approved in the FY02 budget, realignment of responsibilities and expansion of coverage did occur. Work orders submitted to the Support Center increased from 4,066 in year 2000 to 6,183 in year 2001.

Planned Projects

In 2002 most of the department's focus will be on the maintenance of the technical infrastructure and existing computer applications. With one major exception, work on the recommendations made in the 1999 Infrastructure Review will be minimal until sufficient staff and funds become available. The exception to this is the conversion from AS/400 Office Vision.

Conversion from AS/400 OfficeVision

In 1999 IBM announced that OS/400 Version 4 Release 4 would be the last release of the AS/400 operating system that OfficeVision will support. A subsequent announcement extended support to one additional release, OS/400 V4R5. The department has since migrated to the last release of OS/400 that will support Office Vision. There are a very large number of users who will continue to require the electronic mail and document processing capabilities that this product has provided. Additionally, the document processing capabilities of OfficeVision are highly integrated into the primary offender

management application, OPII. Because of this it will be necessary to acquire and migrate to replacement products in the near future.

Using this year's Office Vision Assessment study as a basis, early 2002 emphasis will be placed on developing a formal plan and selection of replacement software that can support us in our current hardware and network environment. Assuming that funding becomes available in FY03, the department will then begin this two-year migration effort to the new products.

Automated Fingerprint Identification

With the support of the Missouri Highway Patrol and Federal Grant funding the department installed Automated Fingerprint Identification (AFIS) equipment in the three reception and diagnostic centers during 2000 and 2001. This equipment is capable of editing fingerprints for quality and then transmitting them electronically to the Patrol's Criminal Records Division. Supported by continued Federal Grant funding, 2002 efforts will focus on integrating the AFIS systems with the offender management application (OPII) so that the supporting identification information can be retrieved and automatically included in the record that is transmitted to the Patrol.

Image Processing

In 2001 progress continued relating to the incorporation of offender images into the central database. In 2002 continued work in this area will focus on business processes and computer programs to support retrieval of images from the cameras and incorporation into the Offender Management (OPII) database. Once implemented, images such as facial photographs and scars, marks and tattoos will be collected and stored as a normal part of the electronic offender record. These images will be available to be displayed on any capable department workstation as well as printed as a part of a paper record. Since the support of image requires PC workstation technology, this project is entirely dependent on the availability of funds to upgrade the data communications networks within department institutions. This funding has been requested in the FY03 budget.

Computer Applications

Because of the lack of development staff, there are no formal plans to accelerate efforts to develop applications identified in the Information Strategy Plan. However an immediate need for two applications, Offender Booking and Fleet Management, has been identified and work will begin on both of these early in 2002.   Unless the current staff shortage is resolved, work on subsequent new applications will not begin until these two systems are implemented.

Initial efforts in 2002 will be placed on analysis and design of an interface to support the integration of offender data from the State Courts system into OPII. Because of the

complexity of this interface and the availability of staff, actual implementation of this interface may not occur until a later date.

Network support

A number of activities relating to the data network have already been identified as 2002 projects. These include the following:

❑ Migration to Windows 2000 Server software

❑ Installation of LANs in several new Probation and Parole offices, including workstations

❑ Relocation of approximately five Probation and Parole offices

❑ Opening of the ERDCC institution at Bon Terre, including a LAN and approximately fifty PC workstations and 100 Thin Client terminals

❑ Installation of network equipment and workstations in the last three housing units at SECC

❑ Installation of inmate-accessible Kiosks in twenty-two institutions

❑ Implementation of extended firewall function

In addition to the above, we expect to spend considerable time defining a multi-year operational strategy relating to the replacement of obsolete workstation and network technology and the development of a Windows 2000 Client migration plan.

Accumulated Demand

Significant backlogs of accumulated demand exist in several functional areas within the Information Systems area.

In applications development there are 156 enhancements pending for the Offender Management system (OPII) alone. These enhancements represent requests that have been analyzed, approved and prioritized. At current staffing levels, this represents over three years of backlogged work. In addition to the OPII backlog, there are ten major changes pending for the Offender Medical system. And the forty-one business systems identified in the Information Strategy Plan represent potential candidates for new computer applications. Assuming that staff increases requested in the FY2003 budget are approved, these will be prioritized and development will begin on the highest priorities in the 2nd half of 2002.

Within network support there exists an average of 130 backlogged service requests that require onsite support. This represents an average of two months of work. With current

staffing levels this number might remain relatively stable. However, as new department locations are added and with the implementation of more complex thin client technology in institutions, it is more likely that this backlog will grow. Another factor to be considered is that the demand for networked PCs has been artificially constrained due to the severe limitations of the data networks within institutions. If funding is received to upgrade these networks, a significant growth in PC workstations and therefore support requirements will follow.

Other factors impacting the network support workload include implementation of additional firewall functions, the installation of banking kiosks and the increasing need for support of obsolete technology. Currently over half of the 3,100 PC workstations connected to the department's network are three to four or more years old. The accepted life cycle for these device types is three years. During 2002 this percent of obsolescence will grow to over seventy-five. Unless funding for replacement technology is received, the support required by these devices due to age and failure rate will increase significantly.

Another major factor that will impact the workload in this area is the replacement of obsolete terminal devices. Computer vendors no longer manufacture the terminal devices traditionally used by the department. As replacement devices are required, these are now being acquired from the used market. There are currently more than 3,500 terminal devices installed on our network. We anticipate that the failure rate of these will continue to rise and the replacement workload will grow accordingly. This problem will remain with the department until funding is received that supports the implementation of newer network technology and the replacement of these old terminal devices. Funding to begin this has been requested for the FY03 budget.

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Coordinating Board for Higher Education

Overview

The Department of Higher Education handles most IT projects from its core-operating budget, which includes state general revenue, federal funds, and funding resulting from the administration of the Federal Family Education Loan Program (FFELP). For FY2002 the CBHE received spending authority of federal FFELP funds for our e-government project. For FY2003 the CBHE is requesting authorization of federal FFELP funds to complete the current portion of the e-government project and to begin another phase.

The Department of Higher Education also coordinates the development of and recommends a consolidated budget request for the state's system of higher education, which includes MOREnet and MOBIUS. The MOREnet Shared Network provides 690 Mbps Internet access for Missouri higher education, K-12 schools, public libraries, and state government institutions.   The MOBIUS Common Library Platform serves 98 percent of the higher education students in Missouri.

Accomplishments

- ❑ Disbursed over $43 million to 26,561 students in the state grant, scholarship, and loan forgiveness programs to help finance students' higher education.
- ❑ Disbursed over $16.5 million to 12,791 students in the Charles Gallagher program.
- ❑ Disbursed over $15.8 million to 8,251 students in the Bright Flight program.
- ❑ Disbursed over $8.2 million to 3,821 students in the College Guarantee program.
- ❑ Disbursed over $2.9 million to 1,337 students in the Advantage Missouri program.
- ❑ Disbursed over $460,000 to 361 students in the Marguerite Ross Barnett program.
- ❑ Disbursed over $212 million in over 125,000 disbursements in the FFEL (Federal Family Education Loan) program through ATOM (Automated Transfer of Money) to help finance students' higher education.
- ❑ Web projects that enhance student, school, and lender abilities to get information efficiently and effectively. It will also reduce time and effort of agency staff.
- ❑ Grants and scholarships integration project for e-government has started; currently in the process of defining the detailed-level business requirements.
- ❑ Enhanced online access to grants and scholarship information and applications via pass-through from our web server.

- Grants and scholarships rosters were made available to institutions via the web.
- Enhanced web site went live January 1, 2001.
- ATOM instituted processing of Same Day Guarantees.
- ATOM started providing web-enabled lender and school files.
- MOSTARS newsletter available online.
- E-mail subscription for newsletters available online.
- Clients able to register for workshops and conferences via online registration.
- Completed over 700 improvements to internal systems that process the state grant, scholarship, and loan forgiveness programs, as well as the Federal Family Education Loan (FFEL) program to benefit the agency staff and ultimately the customer with more efficient systems.
- Increased IT staffing and reorganized to better align IT with the business drivers.
- Moved entire CBHE network behind the State Data Center's firewall for increased security.
- Established a secure dial-in access solution for remote users via VPN.
- Implemented web access to the agency e-mail system to allow staff to communicate from any Internet connection.
- Continued training IT staff in new technologies to benefit the agency and ultimately the customer with better IT systems.
- Continued making additions to the imaging system to enable agency staff to save time and effort with information retrieval.

Planned Projects

- Finish integration and web-enablement of the state grant, scholarship, and loan forgiveness systems.
- Support the Missouri Learners' Network (MLN) web site.
- Continued development of new web site to implement dynamic content and include live online assistance for students and other clients.
- Implementation of a data warehouse.
- Online PLUS loan applications and instant credit checks to verify eligibility.
- Consolidated database information for program inventory.
- Implementation of an intranet.
- Implementation of an enterprise anti-virus solution with automatic updates.
- Upgrade imaging hardware and software for improved performance and continued vendor support.
- Implement a request center for tracking computer-related problems and requests.

Accumulated Demand

Several projects that were planned for this year did not get completed due to other priorities and are planned again for next year. These include:

- ❑ Online PLUS loan applications and instant credit checks to verify eligibility.
- ❑ Consolidated database information for program inventory.
- ❑ Implementation of an intranet.

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Department of Economic Development

Accomplishments

Toolbox

With the merger of the DOLIR Division of Employment Services and the DED Division of Job Training to create the Division of Workforce Development, it was evident that a number of legacy systems would have to be merged together or integrated. Each of the merged agencies brought their information systems. The Division of Job Training relied on the Job Training Information System. The Division of Employment Services relied on Americas Workforce System and Missouri Works!

The initial modules of Toolbox were developed during the 2000 calendar year to implement Workforce Investment Act requirements and to replace the Job Training Information System. During 2001 the job matching functionality of the Americas Workforce System were moved over to Toolbox. The integration between Missouri Works! and Toolbox allows the Division of Workforce Development to capture customer information through the Internet reducing workload and cycle time. The remaining Americas Workforce System functionality will be moved to Toolbox during 2002.

Toolbox is a web-enabled application that is currently utilized by more than 1200 staff and partners at more than 200 locations. More than 900,000 clients are currently in the system.

Missouri Education and Career Hotlink

The Missouri Education and Career HotLink is a website that provides citizens with information pertaining to educational institutions offering post-secondary education including 2 & 4 year public and private schools, technical/professional schools, and private proprietary schools. This site was developed under the direction of the Missouri Department of Elementary and Secondary Education, Employment Training Section and in cooperation with the Missouri Department of Higher Education, the Missouri Department of Economic Development, and the Division of Workforce Development. The URL for this website is http://www.works.state.mo.us/mech/

Program information for each institution is listed by Program Name, Degree Type, Course Length, and Cost Information. An interactive map to the school location and links to each school's individual website is also included. Occupational career information presented includes wage data and projected employment trends by state and region. Also included in this site are the following searches:

❑ A Search for institutions by Program Name and City Name.

❑ A Search for institutions by Occupation.

❑ A Search by Institution Name.

❑ A Search by Program Name.

Links to the fastest growing occupations and the occupations with the most openings are also provided.

Customer Management System (CMS)
The initial modules of CMS were put into production during 2001. The system currently allows staff to track tax credits issued to customers. Modules will be added during 2002 that will allow staff to track grants, loans and technical services.

Department of Economic Development Homepage Redesign
The DED homepage has been redesigned to make the site easier to use and more visually appealing. The site can be viewed at http://www.ecodev.state.mo.us.

Time Management System (TMS)
TMS is a web based time and attendance system. Implemented during 2001 in the Division of Administration, the system eliminated paper leave requests and timesheets. TMS will be deployed further throughout the department during 2002. TMS has streamlined the leave request and approval process as well as the timesheet approval process. TMS leave data is uploaded to SAM II. Future plans include uploading work allocation data to SAM II for cost accounting purposes.

Public Service Commission
The Missouri Public Service Commission (PSC) is implementing a state-of-the-art information system. The Electronic Filing and Information System (EFIS), is an integrated electronic work management system that includes document management, automated workflow, electronic filing, centralized data repository, full text search capability with fuzzy and conceptual logic and will be operated through the Web browser.

The accessibility of this system through the Internet will make more information available to the public, regulated utilities and stakeholders, as well as, support high standards for productivity and consumer service. The positive impacts of this project on Missouri residents, regulated utilities, stakeholders and to the PSC, are to reduce cost of

doing business with the PSC, ensure safe and reliable services and to handle increase caseload without inflating workforce.

The PSC and Gulf Computers are in the final stages of pilot testing. The pilot is being moved to production servers in January 2002. After the move to the production servers, testing, user training and acceptance will be completed. EFIS is scheduled to be in full production May 1, 2002.

Technologies utilized in EFIS include HTML, ASP, JAVA, FileNET's eProcess, Convera's RetrievalWare and VeriSign.

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Planned Projects

Starting a New Business Web Site
This site will help Missouri citizens meet the government requirements related to starting a new business. The first version will walk potential entrepreneurs through a set of questions pertaining to the type of business they wish to start and return a list of government licensing and registration requirements with links to additional information about the requirements as well as applicable forms. The first version is scheduled to go into production during the first quarter of 2002.

The second version will allow citizens to save the results of their list of requirements. The second version is scheduled to go into production before the end of 2002.

On-Line Renewals
The current process for renewing licenses with the Division of Professional Registration is labor intensive and slow. Renewal forms are sent to licensed professionals through the postal service. Once received, the licensed professional completes the form and returns it to the Division of Professional Registration where the form is reviewed, the information is entered into the licensing system and a license is issued. This system will allow licensed professionals to renew their licenses via the Internet eliminating a number of steps from the process and reducing cycle time.

Based on preliminary information it is estimated that 98,088 licensed professionals would use the online renewals with an estimated state savings of $98,088 and customer savings of $980,880.

Accumulated Demand

National Site Selection Database System
A standard data set is being developed on the national level that is intended to assist organizations with the site selection process. The intention is to have this data set available on the Internet.

Internet Processes and Internet Marketing
Demand exists to push more and more of the department's processes to the Internet. Likewise, demand exists to further develop the department's Internet sites to enhance the department's marketing efforts.

As the speed of business increases so does the demand for the deployment of these sites. Likewise, there is significant pressure to continually shrink the amount of time between articulation of the initial concept to full deployment.

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Dept. of Elementary and Secondary Education

Overview

The Department of Elementary and Secondary Education (DESE) continues its plan to transition all information systems from mainframe to state-of-the-art technology that will enable Missouri school districts to interact with the department through worldwide web applications. DESE has utilized the web for over five years with the Federal Grants Application system and has expanded the web-based systems into other DESE divisions. Business users have shown that by combining business process re-engineering and automation, the organization has realized a reduction in the amount of paper flow from school districts, a reduction in administrative paperwork at the districts, a reduction in response time from DESE to the districts, and a reallocation of department administrative staff to technical assistance for the districts.

Accomplishments

Annual Secretary of the Board (ASBR)

Implemented this application that is a collection mechanism for gathering financial information from the public school districts to meet compliance of statutory requirements and, to some extent, for payments to those schools.

School Food Services - Application and Claim

Implemented the collection mechanism for public and non-public school districts to submit applications to participate in the National School Lunch Program administered by the U.S. Department of Agriculture and to report information about the number of students fed in the various programs for reimbursement. This was automated from the agreement through the monthly meal reimbursement claims and into SAM II payment.

Perkins III Grant - Application, Budget, Final Expenditure Report, Payment

Implemented the system that covers the collection of the application, proposed budget for the participants, and final expenditure for the participants through payment for the Carl D Perkins III grant.

Third Cycle Missouri School Improvement Program (MSIP)
Completed major modifications to the Annual Performance Report that is used in the MSIP accreditation reviews of public school districts in the 3rd Cycle MSIP.

Census of Technology
Completed the transfer for the collection of data from the public school districts regarding the in-school technology from the Office of Social and Economic Data Analysis (OSEDA) to DESE. The process was moved from paper collection of data to the web.

Missouri Assessment Program (MAP)
Implemented database changes occurring from additional information being collected regarding students taking the MAP tests and a new test being given. The additional information now being collected includes a Vocational and Adult Education completer field and health and physical education data. Modified the method of producing CDs for the school districts to use in their reporting of MAP scores. The CDs are created, for each district, and can be used for ad hoc reporting. The CD also contains state averages for comparison.

Part B - Individuals with Disabilities Education Act (IDEA)
Implemented a new system for Part B - IDEA, making major improvements on the old system and included a Sliver grant capability in the event monies become available. The implementation of this system includes Budget, Final Expenditure Report, and Payment.

Adult and Community Education System (ACES)
Completed development and installation of an application to capture continuing education testing information at testing sites and forward that data to a master database at DESE. The application allows for local ad hoc reporting.

Network
Implementation of a new single point of contact help desk system will begin this fiscal year. This system will be used to funnel requests, software development, maintenance, database, and networking, to a single point for automatic distribution to the appropriate staff for follow-up. DESE also plans to expand the Intranet to provide better customer service to employees. Consideration is being given to providing connectivity to out-state DESE entities using Virtual Private Network (VPN) technology.

Implemented new storage area network and clustered file servers to provide additional storage space and redundancy for file storage. In addition, the network section combined and simplified a secondary domain into single domain.

Extended connectivity to several sites across the state. This allows data entry at those sites to reduce duplicate effort at central office.

Transitioned the Census of Technology data collection web application from Missouri Research and Education Network (MOREnet) to DESE. A new web application was developed to allow districts to submit the district's response to standards online before the district's MSIP review.

Completed a project to provide email and fax distribution groups to target key school personnel and news media.

Operations
Transitioning from a RS6000 SP test and production nodes to new RS6000 H80's will be completed by mid-December. The move to the more powerful H80 machines should provide better service to our web-based application users.

The following projects are in-progress:

Core Data Collection
Continuing development of the Core Data collection, which is a mechanism for collecting critical pieces of data used to accredit school districts, to calculate school payments as well as federal and state reporting. The August and October cycle web pages are available for data entry.

User Manager
Enhancing security for the web continues in an effort to give the school districts more control over resetting passwords and for changing security access throughout the school year as their needs might change. Currently, the districts must submit a request to DESE IT to have passwords reset or to change the people who need security to the Web based systems. By giving more capability to the districts, faster response time and less dependence on DESE will be seen. DESE will maintain the capability to modify the security where necessary as well as maintaining agency access to the various systems.

General Educational Development (GED) Testing
Modifying the GED scoring system in order to accommodate a change in Test Score totals is underway. In addition, the State Board of Education is considering a change to the current certificate issued when the GED is accomplished.

SAMII Financial Report Maintenance
Completing modifications to the SAMII Financial Data Warehouse due to changes implemented by OA is being worked on at this time. Changes are required to several reports already in existence.

Planned Projects

Core Data Collection
Complete the remaining tasks necessary to provide a Web based system for the school districts to report their data to DESE. A completion date of June 30, 2002 is planned for the remaining portion of the system.

School Food Services - Income & Expenditure and Direct Certification
Completing portions of the School Food Services system that are separate from the payment and claim process is to be undertaken this fiscal year. Direct Certification is the method in which districts can request names of students that might be eligible for free/reduced lunch; Income & Expenditure is the annual financial report by the public and non-public districts for the purposes of School Food Services.

Data Marts/Data Warehouse
Continuing effort is needed to provide DESE with the capabilities to generate standard and ad-hoc reports. The Data Mart/Data Warehouse project is an ongoing effort to provide databases that are designed for end-use reporting. The project will also require the purchase of a new reporting tool. Tasks to be completed include:

- ❑ Analyze and determine a replacement product for reporting; provide at least 2 reporting databases to the user areas for ad hoc reporting, and populate the agency data warehouse with several key educational indicators.

- ❑ Transition the production of the Annual Performance Report from the current programming language into Visual Basic for ease of maintenance and efficiency. In this process, populate the agency data warehouse with several key educational indicators calculated during the production of the APR.

Missouri Assessment Program (MAP)
Analyze changes to data collected during the MAP testing and make the appropriate modifications for support of the school districts will be necessary for input into next year's collection.

Basic Formula & Foundation Formula
Completing the analysis and programming necessary to migrate the Foundation Formula payment, and simulations of these payments, from the VSE mainframe environment to a Unix environment is scheduled. The simulations are used by DESE to help in determining what the various school district payments would be based on funding made available from the legislature. Additionally, they are used to respond to legislative questions on the effects on payments of potential legislation.

Teacher Certification
Provide user access to the re-designed application for testing will be underway by mid-December. The review of additional enhancements, incorporation of those changes, and

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implementation of the application into production by end of FY 2002 is to be completed by the end of the current fiscal year.

Network
❑ Implementing a redesign of DESE's home page and web site to align it more with the state's web standard is planned.
❑ DESE will add new pages and topics to the DESE Intranet to provide more information to DESE employees.
❑ Implementing a new load balancing and firewall configuration, that will provide high availability and increased security, is scheduled for completion this fiscal year.

Accumulated Demand

DESE has a number of projects prioritized for future work. There currently are over 30 projects ranging from enhancements of existing systems to new development in the DESE IT Request Database. This does not include day-to-day maintenance or production support of existing systems. Most of the projects fall in the Application Development area, but some reside in Networking. All Application Development projects also will impact the Database group and some will impact the Networking group. It is anticipated that, with the current staff available, it will take at least 3-5 years to complete projects already requested.

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Department of Health and Senior Services

Accomplishments

Division of Aging Merger

The Division of Aging was moved from the Department of Social Services to the Department of Health to create the Department of Health and Senior Services (DHSS). Because the Division of Aging's technology standards were different than the Department of Health's, e-mail gateways were established for the seamless exchange of messages, a common virus protection software was installed department-wide, and department-wide electronic forms were created to work in both environments. The information technology staffs of the two former agencies were combined and began developing common goals and objectives.

MOHSAIC

During 2001, the Department continued its progress on developing and implementing a statewide, integrated public health system, the Missouri Strategic Architectures and Information Cooperative (MOHSAIC). MOHSAIC is recognized as the nation's most fully integrated public health system and has been written up in a national public health journal. A description of the system is included in a chapter of a new health informatics textbook, and representatives of public health departments from nine other states visited DHSS this year to see MOHSAIC. Major MOHSAIC accomplishments this year include:

A Child Care Safety and Licensing application was implemented. The Child Care Safety and Licensing application records basic information about every child care facility in the state and the results of their safety inspections. The application is also used by the Department of Social Services for referrals to child care facilities and verification of Medicaid payments to qualified licensed facilities.

A Service Coordination application was implemented. This application provides for planning and tracking all health services provided to clients with special health care needs and includes easy entry and retrieval of all case notes associated with a client.

Development of a Web access for private providers and expansion of covered diseases to include sexually transmitted diseases and HIV in the Surveillance application were completed. These enhancements will be implemented early in 2002 when a Quality Assurance feature will be added that will prevent incomplete and some inaccurate data from being added to the Surveillance database.

A web-enabled newborn hearing screening and metabolic testing system was developed and implemented. The system allows hospitals and audiologist to enter data directly into the state database.

Data Warehouse

All data entered into MOHSAIC are moved to the department's data warehouse. DHSS develops subject-specific data marts to simplify the development of reports. A variety of tools are employed by users to develop reports from the data in the data warehouse, including SAS, MS Excel, MyEureka, Epi Info, and MS Access.

During this year DHSS purchased address files that will enable it to add geocodes to MOHSAIC and the data warehouse addresses. Geocoding will permit geographical reporting from the data warehouse.

Senior Services' Applications

Significant enhancements were made to all Senior Services' applications this year. One of the changes was a result of changes to the Medicaid Prior Authorization process. Senior Services was required to make changes to their applications to accommodate the new Medicaid requirements.

Another major enhancement was to the Employee Disqualification List (EDL). An interface was created with the Department of Labor and Industrial Relations to track employment of people already on the EDL to determine if they have returned to work in a health care related occupation.

Other Application Development Projects

A Web-enabled Summer Food Program system was implemented. The Summer Food Program provides free lunches to children of low-income families in summer day care facilities. The system allows day care facilities to register for the program on-line, then the system tracks the facilities usage of the program and authorizes SAM II to issue monthly checks to the facilities for the costs of approved lunches.

The Organ Donor system was enhanced to allow web access. Previously the organ donor sites had to access the database of people who have agreed to be donors via dialup. The system was also converted from an IDMS database management system to Oracle.

Emergency Response Preparedness

For the past two years, DHSS has been developing a technology to assist with a health emergency response, especially a bioterrorism attack. Since September 11, the department has increased its ability to respond to such an emergency. DHSS had

previously installed broadcast fax capabilities, secure e-mail capabilities to all local public health agencies, and video conferencing and streaming video capabilities for bioterrorism training. Efforts this year have been directed at obtaining a database of names, e-mail addresses, and telephone and pager numbers for health care professionals who could be called on in an emergency.

DHSS developed an interim active surveillance system that gathers diagnoses on reported illnesses from hospitals, schools and other institutions on a regular basis. DHSS staff analyze the data obtained to determine if any area of the state has an abnormally high rate of a particular diagnosis, which could provide early indication of a bioterrorism attack or an outbreak of an infectious or communicable disease. The interim system relies on phone calls to obtain the data. DHSS is currently developing a system that will interface with the hospital patient care systems to obtain the information electronically.

MICA

DHSS continued expanding the Missouri Information for Community Assessment (MICA). MICA is an easy to use application that runs on the DHSS Internet site for developing health profiles for Missouri communities.

During 2001 the functionality of the MICA system was expanded to include the capability to sort a table, to drill down to more specific age and racial categories, to produce data by health districts and to produce confidence intervals.

New MICAs were developed for Cancer, Behavioral Risk Factor Survey Data, and Medicaid enrollees. These MICAs are still under review by the users and have not been placed on the Internet.

Besides MICAs, we produce subject specific profiles on each county. In 2001 we completed a profile on Assault Injuries, Self Inflicted Injuries and outpatient procedure charges.

Planned Projects

❑ Enhancements for MOHSAIC for 2002 include a Lead Screening application (this application was originally scheduled for 2001 but had to delayed because of budget cutbacks), TB screening, a Quality Assurance module for the Surveillance system, a claims payment module for the Service Coordination application, HIV/AIDS care coordination, and analysis for conversion of WIC to MOHSAIC. MOHSAIC will also be implementing electronic data exchanges with laboratories, hospitals, and other private health care institutions. Also, the Family Care Safety Register will be expanded to include an interface to Mental Health for background checks.

❑ Enhancements for the Data Warehouse for 2002 include adding Lead Screening, WIC, and newborn screening and testing data. Geographical Information Systems capabilities will be expanded.

❑ Deficiencies found during nursing home inspections will be listed on the Internet.

❑ Development of a database to track staff training.

❑ A web-enabled Child and Adult Food Care Program will be implemented.

❑ Enhancements are planned for all Senior Services' applications and the Governor's Silver Citizen Discount Card program will be reactivated.

❑ MICA will add additional profiles.

❑ A document imaging system was original scheduled for implementation in 2001 by both the former Department of Health and the former Division of Aging, but both were delayed because of budget cuts. DHSS expects to be able to implement a pilot imaging system in 2002.

Accumulated Demand

The following projects have been requested but are not on the schedule because of a lack of resources or incomplete information:

❑ Additions of the following applications to MOHSAIC: environmental health programs, cancer control, and some health inspection programs.

❑ A web-enabled vital records system that would allow hospitals to enter new birth information and funeral home directors to enter death information over the Internet.

❑ Vital records and senior services databases will need to be converted from IDMS to either Oracle or DB2.

❑ Changes will need to be made to DHSS applications to make them HIPAA compliant.

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Missouri State Highway Patrol

Accomplishments

Uniform Crime Reporting

The Missouri Uniform Crime Report (UCR) Program Law RSMo 43.505, signed into law by Governor Carnahan in 2000, charged the Department of Public Safety (DPS) with implementation of a UCR repository. The MSHP was tasked by the DPS Director to perform this mission for the department. In 2001, the UCR central repository was established for collection of summary crime statistics as provided by reporting law enforcement agencies. Also in 2001, a web enabled UCR reporting application was implemented that provided local law enforcement agencies the capability to electronically submit monthly summary statistics to the central repository. In addition, UCR data specifications were published that provide local law enforcement agencies the documentation to electronically transmit these data directly from their record management systems to the central repository.

An increase of 450 personal computers is anticipated for local law enforcement agencies to electronically submit data to the central repository via the UCR website. An interface between the central repository and the FBI also was developed in 2001 and was successfully tested. The reports functionality of the central repository was initiated in 2001 and reporting development is expected to continue into the next year. Four UCR trainers were employed by the MSHP in 2001 to provide UCR training to law enforcement agencies throughout the state.

MCD /Wireless Query Project

Development of an application to run on mobile devices allowing officers to access MULES NCIC, DOR as well as perform car to CAD, or Car to car messaging and silent dispatch to CAD. Future deployment depended upon the successful completion of this project.

Internet Access to Patrol Troops

Project included roll out of Internet and email capabilities to selected troop desktops, as well as additional installations to support Racial Profiling reporting requirements.

Racial Profiling

This project facilitated requirements of SB1053, which included a Proof of Concept, addressing interim solution for capturing required "Racial Profiling" information at vehicle stops and reporting them to the Missouri Attorney General's office. A Personal Digital Assistant (PDA) proof of concept pilot project was conducted at three Patrol zone locations, and the resulting analysis dismissed the use of PDAs as input devices for this project. The Racial Profiling application was deployed to Patrol Troop and Zone locations for input of Racial Profiling Reports.

MCD /Wireless Project

This program provides Patrol personnel across Missouri with ready access to necessary criminal justice information in a timely manner. The project funding was made available through Federal grants.

The Patrol operates a voice radio communication system that has exceeded its saturation level for the amount of voice traffic required to support enforcement activities in the field. To compensate, officers now have to wait an extraordinary amount of time to access the radio system in order to run necessary licensing and wanted checks through the MULES system. The officer requests the remote radio operator to enter inquiries and respond with returned information. In an increasing number of instances, an officer will simply not request a records check because it takes too long to gain radio recognition due to traffic. By the time access can be gained, the particular event triggering the need for the check has passed. Were the check to be run, the response would be received too late for the officer to take action. Wait time for the officer to access the radio has reached up to four minutes in the more populated areas of the state where traffic is the heaviest.

This particular situation creates a number of problems. Enforcement effectiveness is affected due to an inability to obtain access to important information effecting enforcement decisions. Officer safety is compromised in that officers may encounter dangerous individuals or circumstances without the benefit of information that could make a difference in their actions. Warrant entries are not being "hit" as the inquiry can't be made. Finally, officers who wait for access to the radio system effectively suffer down time for the period that they are simply waiting. This has the effect of reducing enforcement availability and subsequently activity.

Specifically, this project addressed the defining of system components (hardware/software), and vendors involved with the implementation of mobile computing devices, cellular modems and antennas, and automated forms software in patrol cars. There were eighteen vehicles outfitted and deployed in a proof of concept implementation. The implementation fulfilled the expectations and pointed out the need for additional components for officer safety and efficiency (i.e., mounting logistics,

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additional memory and processor speed). The next step was to utilize this information and implement an additional 150 units with the funding available. All necessary components were procured and made ready for an early 2002 deployment.

With the rollout of the additional 150 units the officers utilizing this technology will be directly connected to MULES via cellular digital packet data (CDPD) technology allowing direct and immediate access. The automated forms software will permit the collection of data at the source for such forms as the uniform complaint and summons, the traffic accident form, the officer activity form and the criminal incident form. The number of vehicles that can be equipped with the technology is dependent upon the CDPD coverage area and funding available. The rate of expansion of CDPD coverage needs to progress such that over the ensuing years coverage will grow to accommodate all patrol vehicles.

This program is to improve officer productivity by permitting direct, timely access to important information. Improvement of officer safety will be a major goal. Another goal is reduction in radio voice communication, thus reducing the saturation level and permitting access for critical communications where voice transmission and availability are musts.

Token Ring to Ethernet Conversion
Project included installation of new Cisco 3500 Ethernet switches in each of the 7 wiring closets on the General Headquarters (GHQ) campus with each switch connected by fiber to the ISD operations area. This gave the MSHP GHQ campus users gigabit speeds between switches and ensuring 100mb capability to each desktop. The project included testing and installing new cabling from each closet to every desktop on the campus. The new equipment allows remote access and monitoring capabilities that will enhance reliability and increase proactive maintenance capabilities.

HP32 – Patrol Web Page with Divisional Templates
Web page templates were designed for a number of Patrol Divisions, which allow divisional staff to create and maintain content data associated with their portion of the Patrol's web site. These templates facilitate the workflow necessary for creation/modification of content data, through the review and approval process, to publication on the web site. This project allows Patrol divisions to maintain their own data content with little to no ISD input required. Customized templates are now available for a number of divisions, and a generic template is available for use by other Patrol entities.

MULES3/NCIC Model-Log Tape Scan Replacement Solution
Project will provide an alternative solution by allowing log scans to be run locally at the Patrol, eliminating State Data Center charges for processing and significantly reducing data storage requirements and costs. Scope of the project is to reflect the research, presentation and approval of a recommended solution for a new log scan process.

SmartSuite to Microsoft Office Migration
MSHP researched and made recommendation on the alternatives available for moving from Lotus SmartSuite to Microsoft Office throughout the Patrol organization.

Safety Net 2000
Upgraded and migrated the Commercial Vehicle Equipment inspections system to Safety Net 2000 on a Windows/NT Server platform. Implementation required hardware and software upgrades for remote and local CVE PCs. Mainframe applications required modification to meet new record formats.

Help Desk Product Transition Strategy
MSHP developed strategy for future direction of the Patrol's HELP DESK function. The project is to promote continuity, connectivity, and consistency between the state agencies' call centers and reducing costs to the state at the same time. The Missouri Office of Information Technology, in reviewing product functionality, operation platform, current and projected number of seats, state investment to date, annual maintenance cost, directed a change in the software tool currently being used by the MSHP to track HELP DESK calls and problem resolution.

MULES3/NCIC Model – Stolen Parts
This phase of the conversion of MULES 2 legacy applications to new technology was required by regulations mandated by the FBI's NCIC 2000 system. The conversion of this phase allows law enforcement agencies throughout the state the ability to enter, modify, query, clear, cancel or locate stolen vehicle parts into the Missouri Uniform Law Enforcement System (MULES) and the National Crime Information Center (NCIC) using new technology.

Manpower Modeling DDCC & ISD
MSHP developed computer models to quantify civilian manpower requirements of MSHP divisions based on workloads and productivity. The portion of the project provided modeling for four (4) MSHP divisions.

Research Project for Office Vision Replacement Strategy
The Patrol currently uses IBM Office Vision for calendar, email, and word processing on the AS400 mid range computer. IBM announced they would no longer be supporting Office Vision as of June 1, 2001. This did not mean the Patrol could no longer use Office Vision; however, there is now a limit to the upgrades and support we could expect. A project was initiated to research the replacement of Office Vision on the AS400 platform. At the same time, a problem existed with the sharing of spreadsheets, documents, and presentations with other public and private entities needing to communicate with the Patrol. The Patrol utilizes Lotus SmartSuite for these services, while most public and private entities utilize Microsoft Office suite of products. A project was initiated to research the impact of converting the Patrol to Microsoft Office products, or support both Lotus SmartSuite and Microsoft Office suite of products.

Research was completed and the recommendation to utilize Microsoft Office for word processing, electronic spreadsheets, presentations, and databases on the personal computer and Lotus Notes was selected for email and calendars. The implementation of this research will begin in 2002.

Public/Private Network Connectivity
Established a private (MSHP only) and public (non-MSHP) network separated by a firewall. Network allows access to the Internet by outside users without compromising MSHP's Private network. This involved positioning all circuits on the correct side of the network (firewall protected). Additional routers were ordered to handle firewall routing between a Cisco PIX firewall and the core routers. The addition of firewalls and additional security policies were necessary to put the Patrol in compliance with NCIC standards and mandates.

SAMII: HR/Payroll Module
This Project facilitated the implementation of Phase I of SAM II at MSHP. The project included existing system interfaces and data conversions, equipment, software rollout, and data warehouse reporting for HR/Payroll & Time Accounting Modules. MVS/DB2 was selected as the interim platform for data warehousing. This represented a State Data Center cost item.

New Security Methods and Procedures
As the Control Terminal Agency for the State of Missouri, the patrol is responsible for insuring the security of the criminal justice network. Security policies and procedures are established by the FBI's Criminal Justice Information Systems (CJIS) Division. In addition to the FBI requirements, the Patrol has a set of security policies and procedures, and there are unique security requirements associated with the processing of intelligence data.

This project encompasses the research and review of all security-related policies and procedures to ensure compliance. Additionally the project will encompass the development and implementation of new policies and procedures. During 2001, a security team including representatives from the Patrol's Information Systems Division, the Communications Division, and Technical Services Bureau completed the review of current security policies and procedures including the *FBI CJIS Security Policy, the MULES Operations Manual, Patrol General Orders*, and the Regional Information Sharing Systems (RISS) Center security requirements. The development and implementation of new policies and procedures will be completed in calendar 2002.

RS/6000 Reconfiguration for CAD
Upgrades were required to the mid-range RS6000 system to accommodated upgrades to the Computer Aided Dispatching system, the Mobile Computing Devices roll out to patrol cars, implementation of log scan techniques, Data Warehousing, Encyclopedia, Web Focus, and Uniform Crime Reporting. Tape media provides backup for both the RS/6000 and AS/400 platforms.

VISUAL INFO Upgrade with Scanning
The PC based VISUAL INFO system, which stores paper documents in electronic format required upgrading to continue provide scanning capabilities. The previous product that ran on a no-longer-supported version of the OS2 operating system was converted to the Windows Operating System.

Judicial Information System/MULES Integration for Orders of Protection
Developed, tested, and implemented a communications interface between the Office of State Courts Administrators' and the Patrol's MULES systems that automated the reporting of adult orders of protections from the Judicial Information System (JIS) to MULES then to the National Crime Information Center (NCIC).

Accident Form Rollout – Phase I – Rollout to Patrol Zone Offices
Rolled out a statewide program to all 105 patrol zone offices allowing automated entry of accident crashes at all zone PC's. Backup and recovery, and PC form roll out were all incorporated into this project.

Forms Catalog Development
This project facilitates a Notes-Based catalog system, which accommodates access to all Patrol forms, regardless of the technology in which the form is implemented. The current catalog design facilitates forms designed in Lotus Notes, One1Form, MS Word, and MS Excel. The catalog system will isolate Patrol users from having to be concerned with "where to find forms" and "what program they are designed in". The forms catalog uses Notes views to assist users in locating forms, and then launches the appropriate program to initiate a selected form. The catalog application capitalizes on Notes workflow and replication features to move and store forms through the approval process, across the organization. Ultimately, it is anticipated that this catalog will replace the existing FormFlow catalog, as SHP forms are migrated to the new One1Form technology. The forms catalog is scheduled for initial implementation in January 2002.

MULES/OPII Interface Enhancement
MULES/OPII interface was modified to ensure elimination of records on pre-sentence individuals from MULES inquiries. Response now contain the Probation and Parole Officer's name, if on file.

Officer's 28-Day Schedule
Application development was provided for scheduling of Patrol officers' time for a 28-day period. The generated schedule through this application is passed to CAD as well as MSHP's Time Accounting System.

Department of Health MULES Interface
MSHP developed and implemented an interface into MULES to allow applicants into the Department of Health's Family Registry to be checked against the criminal history database returning a "HIT/NO HIT" status.

Family Services MULES Interface

Batch processing matching Department of Family Services' Food Stamp and Temporary Assistance for Needy Families (TANF) Benefactors against the MULES Felony Warrants was accomplished. Department of Family Services will stop benefits and initiate a Law Enforcement effort to apprehend those individuals with felony warrants.

BTAM to TCP/IP Conversion – Phase 1 NCIC

Convert older, non-supported technology (binary synchronous) communication protocol to support Transmission Control Protocol/ Internet Protocol (TCP/IP). This project was necessitated by the Federal Bureau of Investigations' National Crime Information Center.

Criminal Justice Information System's Network Access Procedures

This project documented and formalized the processes and procedures required to gain and maintain access to the Consolidated CJIS network. This project involved identification and documentation of the many different types of agencies, access requirements, numbers and types of sessions, and training considerations necessary to comply with federal mandates and policy. This required all units within the Information Systems Division of the Patrol to perform within the documented guidelines and procedures to collect metrics for providing access to all components of the network.

CAD Completion

This project involved the completion of several outstanding tasks that have developed since CAD Implementation. This involved dependencies upon the mid range RS6000 upgrade to support the additional CAD Requirements and implementation of a change management agreement between the Patrol and LOGISYS, the vendor providing the Patrol's CAD software. This required amendment to existing contracts allowing the two entities to communicate directly with each other rather than through an intermediate contact, as specified in the original integrator contract.

Criminal History Record System

The Criminal History Record System represents the state repository for criminal history records for the State of Missouri. The system is being rewritten to accommodate changes in procedure that developed since its initial creation in the 1970s. The new system utilizes current technologies such as COOL:Gen, WebFOCUS, DB2, and MQ Series to better accommodate the changing requirements of Criminal History Improvement from the Federal government. This project is in the late stages of system testing, and the primary phase of the project is scheduled to complete in December of 2001, with implementation in January of 2002.

MoSPIN: Missouri State Police Intelligence Network

The Highway Patrol's Division of Drug and Crime Control use this Notes-based system as its repository for intelligence information. The system was originally obtained from the State of Connecticut, and customized to meet the needs of the Patrol. Our initial implementation facilitated use by the Patrol, Gaming Commission, and the South East Missouri Task Force. MoSPIN has recently been enhanced from its Notes-client format,

to a web-enabled format. The Web-enabled version is being deployed on the Mid-States Organized Crime Information Center's (MOCIC's) Regional Information Sharing Systems (RISS) Network, and is made available to 22 Task Force Units across the State, as well as local Law Enforcement Agencies for the purpose of sharing Intelligence information. Future enhancements are planned for the integration of MoSPIN with other MOCIC and HIDTA - High Intensity Drug Trafficking Area initiatives.

STARS / TMS Integration

The Statewide Accident Form Committee has formalized and approved changes to the Statewide Accident Form, which go into effect on January 1, 2002. As a result of these changes, significant impact was to be realized by the repositories of Accident Records including the Patrol's Statewide Accident Records System (STARS), and MoDOT's Transportation Management System (TMS). The Patrol and MoDOT have teamed to integrate these two large applications into a single, integrated application. The new STARS system is now a module of the MoDOT TMS system, with access and utilization by both organizations. This integration project has reduced the cost of redesign to both agencies, and provides a common system that eliminates existing interfaces, improves data integrity and facilitates a common basis for reporting of accident information. The integrated system is scheduled for implementation on January 15, 2002. Future enhancements include access with the State's e-government portal and acceptance of automated electronic accident information from the Patrol and other law enforcement agencies throughout the state.

DARE Internet Homepage

A Web Page was developed in support of the DARE program for the state of Missouri. The DARE home page was implemented in 2001, and enhancements are planned for early 2002 to accommodate changes in the alignment of the DARE program.

Human Resources Division NOTES Enterprise – Primary Functions

A Lotus-Notes based Enterprise application was completed and implemented to support the Human Resources Division. This series of integrated applications facilitates HRD functions in support of, but not covered by the State's SAM II system. The system is integrated with both SAM II and the Patrol's SAM II data warehouse, to reduce or eliminate the need for duplicate entry of information by HRD staff. An existing project is underway to facilitate those HRD functions not related to SAM II. A number of previous "manual" processes are incorporated into this enterprise application.

Data Warehouse Infrastructure Project

This project put in place the hardware and software architecture necessary to support data warehouse reporting for the Patrol. The basis of this architecture is an RS6000 / AIX platform with DB2, WebFOCUS and I-Way technologies to facilitate browser-based reporting. Application candidates for short-term warehouse reporting include SAM II, Criminal History, CAD, Internet Activity, STARS / TMS, and others.

Highway Safety Project

The Patrol's Information Systems Division's Statistical Analysis Center (SAC) had significant achievements in their activities associated with the 2001 grant. The SAC between October 1, 2000 and September 30, 2001 accomplished the following activities:

❑ *Highway Safety Plan Development*
Assistance was provided to the Missouri Division of Highway Safety (MDHS) in development and implementation of the Missouri Highway Safety Plan (HSP). The work included conducting analyses to support HSP planning and evaluation of programs being considered for adoption.

❑ *Highway Safety Program Implementation and Evaluation*
Analytical and information services were provided to the MDHS to support implementation of countermeasure programs contained in the HSP or as specified by the agency.

❑ *Highway Safety Applicant Support*
Analytical and information services were provided to agencies for various types of grant supported traffic safety projects sponsored by MDHS.

❑ *State and Local Information and Research Service Support*
Assistance was provided to MDHS and the MSHP in supplying information and analytical services to other Federal, State, and local traffic authorities.

❑ *Highway Engineering Location Analysis Support*
Assistance was provided on highway statistics for various types of crashes in specific parts of Missouri for multiple time periods.

Manpower Modeling

During calendar year 2001, computer manpower allocation models were developed for four separate Divisions within the Patrol. These were the Traffic Records Division (TFD), Drivers Examination Division (DED), Information Systems Division (ISD) and Division of Drug and Crime Control (DDCC). The TFD model computes manpower for centrally located MSHP divisions whose primary function is record processing. The DED model identifies manpower requirements for divisions that are service oriented and have local stations distributed throughout the state.

The ISD and DDCC models identify manpower requirements of divisions that have unique functions and structures. The ISD model computes staff needed for systems development and implementation / maintenance of platforms while considering operation performance levels, worker training and competence, and project outsourcing. The DDCC model projects the expected number of new cases in four crime groups and identifies manpower requirements to handle these cases based on historic man-hours per case. Two of these models (TFD and DED) have been implemented and results have been documented. The ISD model was implemented in 2001 and an analysis of the Division's workload was conducted. The ISD model is currently being updated to reflect

the Division's workload as known for early 2002. Testing and implementation of the DDCC model was completed in 2001 and an analysis will be conducted in the next year.

Missouri Incident Based Reporting System (MIBRS)

As part of the design of Missouri's Uniform Crime Report (UCR) program, the state established a four-year period for transition to full implementation of incident based reporting from existing summary based reporting method. This solution was secured with passage of HB1677, which set parameters for Missouri's statutorily mandated crime reporting systems. In 2001, the MIBRS project was initiated with the formation of a MIBRS project team consisting of staff from the MSHP, Kansas City Police Department, St. Louis Metropolitan Police Department, and not less that five other Missouri law enforcement agencies. To facilitate MIBRS planning and development by team members, a collaborative web-based application was implemented in 2001. This collaborative website provides a dedicated site for team members' group calendaring and messaging, activity tasking, grant invoicing and reporting, and synchronous chat. It also provides limited public access so interested entities can monitor MIBRS project progress.

Planned Projects

MCD/WIRELESS PROJECT

This program will continue to improve officer productivity by permitting direct, timely access to important information. Improvement of officer safety is the major goal. Another goal is reduction in radio voice communication, thus reducing the saturation level and permitting access for critical communications where voice transmission and availability are musts.

With the year 2002 rollout of the 150 units, officers utilizing this technology will be directly connected to MULES via cellular digital packet data (CDPD) technology allowing direct and immediate access. The automated forms software will permit the collection of data at the source for such forms as the uniform complaint and summons, the traffic accident form, the officer activity form and the criminal incident form. The number of vehicles that can be equipped with the technology is dependent upon the CDPD coverage area and funding available. It is anticipated that in the future, areas of the state that do not have CDPD coverage will have alternative wireless technologies available, such as satellite and code division multiple access, which the Patrol can cost effectively utilize.

BTAM to TCP/IP Conversion – Phase II ALERT/REJIS

This project, scheduled for completion in calendar 2002, will move the Patrol from the older, no longer supported Basic Telecommunications Access Method (BTAM) to the newer more robust Telecommunications Control Protocol/Internet Protocol. This phase will allow the Patrol and two of the major metropolitan areas, Kansas City (with their ALERT system) and St. Louis (with their REJIS system) to communicate using TCP/IP.

BTAM to TCP/IP Conversion – Phase III NLETS

This project, scheduled for completion in calendar 2002, will move the Patrol from the older, no longer supported Basic Telecommunications Access Method (BTAM) to the newer more robust Telecommunications Control Protocol/Internet Protocol. This phase will allow the Patrol and the National Law Enforcement Telecommunications System (NLETS) to communicate using TCP/IP. NLETS, which is located in Phoenix, allows inter-state communication capability between the various law enforcement agencies across the nation.

MULES3/NCIC Model – Stolen Plates

This phase of the conversion of MULES 2 legacy applications to new technology is required by regulations mandated by the FBI's NCIC 2000 system and is scheduled for completion in calendar 2002. The conversion of this phase will allow law enforcement agencies throughout the state the ability to enter, modify, query, clear, cancel or locate stolen vehicle plates into the Missouri Uniform Law Enforcement System (MULES) and the National Crime Information Center (NCIC) using new technology.

Internet Activity Report

This project will provide a monitoring aspect to the organizational roll out of Internet access. The outcome of this project will be usage reporting on the new technology.

Virtual Private Network (VPN) Access

This project, scheduled for completion in early 2002 will provide access to the network for agencies that do not have direct connection to the Patrol and it's resources. This technology may be used in lieu of dial up using an Internet Service Provider (ISP).

Uniform Crime Reporting Program Design – Phase II

Development of an automated web-based system for the collection of summary based crime offense and arrest data as reported to Criminal Records and Identification Division by all Missouri Law Enforcement agencies. Phase I (as stated in the 2001 accomplishments) was the actual development of the UCR web site, data interfaces and repository for FBI required UCR data. At the completion of phase II the addition of Missouri data/UCR repository reporting functionality will be in place. Projected completion data is mid-year 2002.

National Sex Offender Registration (NSOR) Interface

In mid 2002 the Patrol will build a mainframe application using the NCIC 2000 model to establish a Missouri Sex Offender System to interface with the National Sex Offender Registry.

STARS / TMS Integration

The new STARS system is now a module of the MoDOT TMS system, with access and utilization by both organizations. This integration project has reduced the cost of redesign to both agencies, and provides a common system that eliminates existing interfaces, improves data integrity and facilitates a common basis for reporting of

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accident information. The integrated system is scheduled for implementation on January 15, 2002. Future enhancements include access with the state's e-government portal and acceptance of automated electronic accident information from the Patrol and other law enforcement agencies throughout the state.

Help Desk Level 1 Training

This project, scheduled for completion in mid 2002 will define, document and establish a training curriculum administered by ISD for Help Desk employees and new hires.

NCIC Requirements for Security Methods and Procedures

This project encompasses the implementation of research and review of all security-related policies and procedures performed in calendar 2001. The development and implementation of the new policies and procedures must be completed September 30, 2002, to be in compliance with NCIC.

SAM II Fixed Assets Integration

The Patrol has utilized a Bar Code Scanning technology for fixed asset inventory for several years. The SAM II fixed asset module has as of this date not made provision for bar code input. The Patrol is working with the OA SAM II team to ensure all system requirements are met when bar coding is used as the input media.

Patrol Web hosting of applicant information

The Patrol has plans to design, build, implement and support a Web based applicant system that will allow interested parties from across the state to complete application data and submit using the Internet. This project is currently in the very early stages of product development with a completion date in late 2002.

Accumulated Demand

The Information Systems Division of the Missouri State Highway Patrol has 181 projects identified for development, integration, testing, and implementation. There are 50 of these projects that have been assigned priorities, many of which do not have planned completion dates. Some of this accumulated demand includes integration of technologies such as Automated Fingerprint Identification System with the Computerized Criminal History System and Visual Info with the Interstate Automated Fingerprint Identification System. Additionally, there are several infrastructure projects such as software conversion of legacy systems to new technology to offset ever-increasing software and utilization costs and security systems. The demand for IT within the MSHP is far greater than the available resources and is likely to continue for the foreseeable future.

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Department of Insurance

Introduction

The mission of the Information Services section of the Missouri Department of Insurance (MDI) is to develop and establish procedures, rules, policies, systems and services related to computer and other technologies that help satisfy the critical achievement requirements of Information Services customers throughout the department. Furthermore, Information Services must fulfill the traditional data processing mission of providing a dependable, efficient and secure computing and communication infrastructure; acting as stewards for the department's data and information resources.

Background

The MDI's Information Services section supports the department's core business and regulatory functions and consists of mainframe and mini computers, local-area networks, wide-area networks and approximately 200 personal computers (PCs). Mainframe computer resources are provided and maintained by the Office of Administration's Technical Services group. The mainframe computers host several significant software applications including MDI's Premium Tax system and mandatory insurance company filing and reporting systems.

MDI's primary information system resides on a client/server system running Windows NT and the Oracle database suite. This system consists of insurance agent and broker licensing modules, company licensing and monitoring modules, and consumer complaint and information modules. Personal computers are an integral part of the MDI network and are used for a wide variety of personal productivity and automation activities such as word processing, data analysis, and provide the gateway to locally networked, mainframe and Internet applications.

Accomplishments

Information Infrastructure
❑ **Anti-virus Defense**
This vital effort included the upgrade and installation of the most current software as well as management tools. The new tools not only automate the update of virus defense files but also provide reporting at the end-user level to assure currency and track virus infection attempts.

❑ **Data Storage Upgrades**
The information systems (IS) staff installed additional direct access storage devices on MDI's network to support the department's ever growing need for data storage and analysis. Of particular note was the inclusion of updated backup and recovery procedures in conjunction with redundancy of our Oracle/MIDS database.

❑ **Oracle/MIDS Upgrade**
MIDS, the "Missouri Insurance Department System", MDI's primary licensing and tracking system is an Oracle based application. During the past year the hardware on which this software operates had become unreliable and, because of this, the servers were upgraded to newer models. At the same time, several other steps were taken to improve reliability:
  - The IS staff upgraded our Primary and Backup domain controllers to meet the increasing load of departmental data and programs.
  - Backup procedures were greatly improved and documented. These procedures are closely monitored on a daily basis.
  - A standby Oracle server was established, ready to bring into service in case of failure of the primary server.
  - Specific tests are executed periodically to determine the quality of backups and ability to recover.
  - A test server was established and is refreshed with data from the production server each day to provide yet another means by which we monitor the success of data backups. Additionally, the test server provides IS staff an independent platform to test program changes and to run lengthy queries that would otherwise place a heavy load on the production server.

New Systems/Software Implementation
❑ **SAMII Accounting and Payroll**
This effort continued with the installation of new client software versions MOBIUS reporting software on workstations throughout the department. Users are able to access, edit and print standard SAM II reports at their workstation rather than receiving hardcopy reports. A small data warehouse of SAM II data was created allowing MDI users to quickly and easily query the data with MS

Access. Additionally, pertinent SAM II data is being integrated directly into the MDI Examiner Billing System, avoiding duplicate data entry and potential errors.

❑ *EBS - Examine Billing System*
The first phase of this effort was concluded with an MS Access system that replaced the old, cumbersome system. Data entry and reporting has been greatly improved. Additionally, some of the data is pulled directly from SAM II, reducing data entry efforts and increasing accuracy. Future plans include integrating various invoicing and cash receipt systems throughout MDI.

Information Technology Training

Recognizing the ever-changing requirements of information technologies and the impact of employee turnover on the department's information workers, the MDI invests regularly in education and training. During 2001, forty-seven MDI employees received training in the use of computer-related products.

Internet Initiatives - Workers Compensation Rates Lookup & Comparison

This system provides competitive Workers Compensation rates for Missouri companies as a service to the public. Along with this effort we were able to develop a Microsoft Access program to validate and edit the data submitted by Workers Compensation companies. This has enabled staff to eliminate virtually all input data errors reduce refresh speed of the IVR to less than one hour.

Planned Projects

Internet Initiatives

❑ *E-Government*
The purpose of this project is to Web-enable several MDI systems and processes in order to better serve Missouri citizens, Insurance companies and licensed Insurance Producers (Agents & Brokers). The 2001 plan calls for Web-enabling:

❑ *Medical Malpractice Forms Filing*
The Missouri Department of Insurance requires reporting of all medical malpractice claims by insurance companies on a mandatory form. The scope of this project includes developing an interactive application that is accessible, with adequate security by way of the Internet; allowing the medical malpractice form to be prepared and submitted to the department online and subsequently be audited and transferred to the database.

❑ *Premium Tax and Tax Credit Calculation & Filing*
The Premium Tax system, which resides on a State Data Center mainframe computer, collects tax-related information from all insurance companies licensed to do business in Missouri. MDI staff verifies the tax return data and the system coordinates with the tax payments collected by the Department of Revenue. The

scope of this will include developing an interactive yet secure application that is accessible using the Internet. It will allow all types of insurance companies to complete their premium tax forms on-line, including entering all premium tax credit information. On-line editing and verification will help ensure that the data entered is as correct as possible.

As we strive to continually improve site navigation and information offerings for the insurance industry, several other mandatory filing systems are being considered for Web deployment.

Other Initiatives

❑ *Single Producer License*

The purpose of this project is to combine insurance agent and broker licenses into a single insurance producer license for the purposes of licensing and regulation. The result of this effort will be a more efficient licensing process that meets national standards devised by the National Association of Insurance Commissioners and satisfies federal requirements outlined by Gramm-Leach-Bliley Financial Modernization Act. These efforts are underway with a contractor providing the analysis and programming support. Final implementation will be in stages in late 2002 and early 2003.

❑ *National Producer Number/License Numbering Scheme*

The purpose of this effort is to institute a standard numbering scheme for all producer licenses in Missouri and to implement the National Producer Number introduced by National Association of Insurance Commissioners. This effort will require database modifications and coordination with the National Producer Database in Kansas City.

❑ *Mainframe Migration to Oracle*

The MDI maintains several legacy systems in the State Data Center. These legacy systems were developed several years ago using the technology available at the time. Present computing methods have not only superceded the old, but also made the skills necessary to maintain the old systems rare and expensive. This project will migrate these systems to MDI's Oracle environment over the next couple of years and provide improved user interfaces as well as facilitate Web access. Emphasis will be placed on collection of information over the Web.

Accumulated Demand (Backlog as of December 2001)

	W/O's	Approx. Hours	
		IS	Contractor
Closed 2001 Work Orders	*1908*		
Open Work Orders @ 12/11/01	132		
Current (30 days)	53	100	440
Past due (30-90 days)	38	439	40
Severely Past Due (over 90 days)	41	952	0

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Department of Labor and Industrial Relations

Overview

The vision of the Department of Labor and Industrial Relations is to be the nationwide leader in providing the best working environment for all Missourians.

The mission of the Department of Labor and Industrial Relations is to provide safe and healthy workplaces and ensure economic security for all Missourians by promoting equal access to jobs, enforcing anti-discrimination laws and awarding payment of compensation to those unemployed, injured at work and victims of crime.

During 2001 the Department of Labor and Industrial Relations continued its progress on developing systems, implementing procedures, and providing electronic processing for its customers. The following are accomplishments within the Information Systems Division for the year 2001.

Accomplishments

Unemployment Insurance Initial Claims

The Department of Labor and Industrial Relations initiated the e-government process of accepting Unemployment Insurance Initial Claims via the Internet on December 18, 2000. This implementation allowed Missouri to be the first state to provide a "Hands-Off" process for filing initial claims. Since implementation the Department of Labor and Industrial Relations has processed a total of 22,000 claims via electronic submission through December 18, 2001. This has allowed the Department of Labor and Industrial Relations to realize 1-800 toll charge savings of approximately $15,400 and an estimated staff savings of 2,567 hours. An online survey has been added. Data received from the survey will assist in fine-tuning the process for customer ease of reporting. To date over 5,400 customers have provided information. A "New Look", graphically enhanced version, is being implemented for customer navigation and usability.

Unemployment Insurance Continued Claims

The Department of Labor and Industrial Relations will initiate the e-government process of accepting Unemployment Insurance Continued Claims via the Internet during mid

January 2002. This process will provide an alternative filing method for our customers requiring continued, weekly, claims filing. Based on Initial Claims processing, this past year it is estimated that 286,000 Continued Claims will be processed by the department. This estimate will account for reduced 1-800 toll charges for approximately 1,114,000 minutes resulting in an overall savings of $80,080.00 for the department. The Return on Investment indicates that within 1.2 years the total cost of system development will be recovered.

Enhanced Information Security Requirements

The Department of Labor and Industrial Relations has initiated enhanced information security throughout the department including, but not limited to:

- ❑ Development of Information Security Principles and Policies
- ❑ Establishment of a Department Information Security Officer
- ❑ Enhanced system security functions for all platforms

WebMail

The Department of Labor and Industrial Relations has initiated Internet-based electronic mail services for departmental executives. This process permits secure access to departmental e-mail and Exchange calendars through MS-Exchange accessed directly through Internet connections. This eliminates direct dial-up cost when executives travel.

Help Desk

The Department of Labor and Industrial Relations established a consolidated Help Desk in January 2000 to provide support for our internal customers. During calendar year 2000, the Help Desk had 7203 problems reported with 7069 of those reported being successfully resolved during the reporting period. During calendar year 2001, the Help Desk has had 9,820 reported problems with 9,677 of those reported being successfully resolved. This indicates a current year increase of reported problems at 27% with only 2% pending resolution.

Information Systems Web Page

Information Systems has completed development of the Information Systems Web Page and has implemented this into production. Main features of this implementation include, but are not limited to:
- ❑ Help Desk
- ❑ User Self Help
- ❑ Hardware / Software Minimum Configurations
- ❑ Tips and Techniques
- ❑ Technical Documents
- ❑ CIO Information:
  - ▪ News
  - ▪ Of Interest
  - ▪ CIO Welcome
  - ▪ Missouri Web Showcase
  - ▪ Technical Documents

DB2 Database

The Department of Labor and Industrial Relations has created two additional subsystems in support of the new Unemployment Insurance Tax System project. These subsystems, encompassing development and test regions, allow for full migration testing prior to production implementation. Developed, via DB2 Connect, communications with SAM II Data Warehouse that permits access to previously unavailable SAM II data reports.

IT Capital Upgrade

The Department of Labor and Industrial Relations has replaced 36% (300) of its desktop computers. This allows better utilization of currently available technology.

Data Entry Processing

The Data Entry section of Information Systems has processed 251,478 Wage Reports for year 2001. Also processed were a substantial number of Employment Security Wage Adjustment, Pre-audits, Certifications, Field Audits, Alteration Memo's, Uncollectible, Combined Wage Claims, TRA (Claims and Benefits), Contribution Check Reconciliations, Machine Audit Reports, Correct Vendor Errors, and quarterly Financial Management Equipment Invoices.

Help Desk Survey

The Department of Labor and Industrial Relations continues to initiate a comprehensive Help Desk user survey to ensure that quality control and customer service remains efficient. This survey is electronically submitted via the e-mail system. Improvement of service delivery and customer satisfaction has increased by 4% over the previous year.

PC Applications

The Department of Labor and Industrial Relations constantly looks for ways to enhance current systems, develop new systems, and integrate new development with legacy systems for increased functionality. Some of our accomplishments in this area are:

- ❑ The re-write of the DOS based Paradox Field Auditors Case Tracking System (FACTS-3). This system has been rewritten using MS-Access, renamed FACTS 2002, and developed to provide enhanced data integrity and audit processes.
- ❑ The rewrite of the Mid-America Labor Management Conference (MALMC) Access Database. This system has been upgraded to add invoice and direct billing processes.
- ❑ Developed interface that automatically feeds Personal Services and Personal Benefit Costs from the Federally required Department of Labor and Industrial Relations Time Distribution system into the SAM II Federal Aid modules. This process eliminates manual entry which saves staff time and reduces transposition errors.
- ❑ Personnel System Applications have been expanded to handle the broadband classifications. Functions have been added to permit entry, tracking, maintenance, and reporting of information.

WEB Page Development

The Department of Labor and Industrial Relations has redesigned the Intranet and Internet home pages giving them a new look and feel that greatly increases our customers' usability. The addition of an "ALERT" function on the Intranet continues to provide our internal customers with immediate notification of potential problems and/or scheduled outages. Additional development includes:

- ❑ Inclusion of Departmental New Releases on the Internet for public viewing.
- ❑ Inclusion of Morning News and Human Resources pages on the Intranet. This provides access to updated information of interest for internal staff.
- ❑ Reorganized and refaced the Department of Labor and Industrial Relations home page.
- ❑ Reorganized and refaced the Governors Council on Disabilities (including MATP site) Internet site.
- ❑ Reorganized and refaced the Commission on Human Rights Internet site.
- ❑ Reorganized and refaced the Labor and Industrial Relations Commission Internet site.
- ❑ Reorganized and refaced the Board of Mediation Internet site.

AS/400 Systems

The Department of Labor and Industrial Relations has made dramatic modifications to our current AS/400 computing environment.   Some of the modifications and enhancements are:

- ❑ Implemented off-site storage of backup tapes and optical platters.
- ❑ Upgraded image applications to Version 4.3 for Division of Workers' Compensation.
- ❑ Merged hardware platforms onto single IBM I-Series 830 to permit multiple LPAR's on a single physical platform. This makes the Department of Labor and Industrial Relations the first state agency to implement multiple LPAR technology.
- ❑ Upgraded OS/2 scanning systems.
- ❑ Retired 9246 optical and copied images to newer technology.
- ❑ Installed Visual Info.
- ❑ Retired direct attached optical jukebox and put new jukeboxes into production.

Mainframe Systems/Operations

The Department of Labor and Industrial Relations has made dramatic modifications to our current mainframe computing environment.   Some of the modifications and enhancements are:

- ❑ Move all production scheduling to CA7.
- ❑ Modified page definitions to permit production document printing to PSF enabled printers.
- ❑ Initial implementation of MOBIUS software.
- ❑ Implemented Virtual Tape Subsystem.

- ❑ Upgraded IAM software for data compression.
- ❑ Produced in excess of 2 million Unemployment Insurance checks.

Network Operations

The Department of Labor and Industrial Relations has implemented the numerous Network initiatives to include, but not limited to:

- ❑ Complete upgrade of Appeals telephone system to permit telephone hearings.
- ❑ Installation of a new departmental file server for hardware redundancy.
- ❑ Upgrade of the departmental tape backup system.
- ❑ Installation of Microsoft Virtual Private Network.
- ❑ Installation of New Interactive Voice Response hardware/software.
- ❑ Upgraded mainframe print capability to use IP.
- ❑ Installation of WebMail processing.

Mainframe Applications

The Department of Labor and Industrial Relations maintains vast amounts of systems and associated programs. Constant modifications, enhancements, and process changes have been normal operating procedures. Specific actions, with regard to mainframe applications are:

- ❑ IVR re-write to accommodate new hardware/software.
- ❑ Co-registration of employers' system development in conjunction with the Department of Revenue.
- ❑ Complete recompilation of all department applications from COBOL II to MVS-COBOL to further meet Y2K date requirements.
- ❑ Complete cleanup of all COBOL libraries.
- ❑ Implemented programming for multiple check mailing indicators.
- ❑ Implemented programming to permit daily check mailings.
- ❑ Implemented programmatic modifications to comply with BAM federally mandated changes.
- ❑ Implemented programmatic modifications to convert IB6 data from ICON journal specifications.

AS/400 Applications

The Department of Labor and Industrial Relations maintains, and develops, numerous systems on the AS/400. Specific accomplishments are:

- ❑ *Crime Victims Compensation System (CVCS)*
  The Department of Labor and Industrial Relations implemented CVCS on November 1, 2001. This endeavor involved a complete rewrite of a 12-year-old mainframe system. The new application provides major enhancements and a user-friendly GUI interface. Several processes not previously automated have been included in the new system. With the recent legislative change to allow Crime Victims' staff to pay an additional $10,000 in compensation, the new

system should offset some of the time that it will take caseworkers to make the additional compensation payments.

❑ *Electronic Data Interchange (EDI)*
Despite the lack of a mandate, the use of EDI by Workers' Compensation stakeholders for electronic submission of First Reports of Injury and Proof of Coverage reports has continued to grow in 2001. The Department of Labor and Industrial Relations implemented Celerity State Connect software in January 2001 to manage EDI. This software eliminated monthly EDI charges and saved the department over $40,000 in 2001 alone. It has also streamlined the EDI process and made it easier to manage the increased amount of injuries being submitted electronically.

Information Systems has worked closely with the Division of Workers' Compensation over the last year in the EDI area. The number of trading partners currently submitting electronic First Reports of Injury has grown to 35. The number of injuries submitted electronically to date in CY2001 is over 50% of the total injuries received as compared to 36% in 2000 and 31% in 1999. The use of EDI for reporting proof of Workers' Compensation insurance coverage also increased in 2001. Over 125,000 POC reports were filed electronically in 2001. Significant programming enhancements in AICS have also been ongoing to reduce errors, add functionality and handle the additional workload.

❑ *Remote Adjudication Module (RAM)*
The RAM Update Project was started in August 2001 and is nearly 75% complete. The RAM system has been in production since October 1998. The system provides the DWC legal staff key case information and imaged documents on stand-alone laptop computers for all docket cases to allow them to make informed and timely decisions about each case and log minute entries and case resolution data.

In light of the DOLIR initiative to move to Windows 2000, upgrades were needed for all software products supporting the system. With the new RAM application all legal staff will be running the RAM laptop version on the new Windows docking station laptops installed in 2001. The primary RAM application has been upgraded from Advantage: Plex software Version 3.5 to Version 4.5 on the AS/400 and Windows server. Major portions of the application were rewritten and over 20 enhancements were made to the application, providing additional functionality. Upload and download functions to transfer data between Microsoft SQL Server, AS/400 and laptop platforms are being written and will support Windows 2000 Server, and MS SQL Server 2000. Sybase SQL Anywhere provides database support on the standalone laptops and has been upgraded from Version 5.0 to Version 7.0. Lead Tools software handles image support on the laptops and has been upgraded from Version 10.1 to Version 12. The RAM upgrade is scheduled for full implementation by February 28, 2002. Information Systems AS/400 Application staff will be working closely with Technical staff to

upgrade RAM software products as new servers are installed in each of the 8 Division of Workers' Compensation offices. Information Systems will provide training on RAM for all Division of Workers' Compensation legal staff.

Planned Projects

❑ Upgrade an additional 16% of desktop computers.
❑ Windows 2000 operating system upgrade for desktop computers.
❑ Help Desk software upgrade due to State of Missouri software recommendation.
❑ Implementation of new Scanning Subsystem for DOLIR Imaging.
❑ Tort Victims System.
❑ AICS Attorney Inquiry Module Web implementation.
❑ AICS Self-Insurance Audit Module implementation.
❑ EDI - Possible mandate of First Report of Injury.
❑ EDI - Subsequent Report of Injury.
❑ AICS Workers Safety Upgrade.
❑ Imaging project to move from Green Screen environment to the Visual Info GUI clients and an initial web implementation.
❑ Convert programs from SIC code to NAIC code.
❑ AICS Web Implementation.
❑ New Child Labor Case Tracking System for Labor Standards.
❑ Information Systems Service Request automated system.
❑ E-Governance initiative for e-Brief filings.
❑ Expanded State Board of Mediation Case Tracking system.
❑ Mid-America Labor Management Conference (MALMC) Mailing/Contacts Database.
❑ CD-ROM upload capability for quarterly wage data upload.
❑ Unemployment Insurance Mass Layoff Claims system E-Governance initiative.
❑ Employer Contribution and Wage Reporting system E-Governance initiative.
❑ Continue reorganization and reface of departmental web pages.
❑ Inclusion of Administrative Law Judge decisions on Internet.
❑ Intrusion Detection System implementation.
❑ Upgrade VPN solution.
❑ Phase out 3174 controllers.
❑ Upgrade McAfee virus scan software and management system.
❑ Implement new scanning subsystem.
❑ Connect AS/400 to Mainframe by IP.
❑ Migrate from ROSCOE to TSO.
❑ Implement SCLM for new Change Management System.
❑ Continue MOBIUS implementation to reduce printed output volume.

Accumulated Demand

The demand for services is ever increasing. The Department of Labor and Industrial Relations strives to meet all requirements while continuing to provide quality products. Although some requirements may be of greater business importance, all processing requirements will be reviewed. At times the demand for service outweighs the ability of Information Systems to provide requested support. Business requirements, process improvements, and electronic procedures that enhance existing systems will be addressed as personnel availability allows.

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Missouri Lottery Commission

Accomplishments

Enhanced Retailer Statement Delivery

Lottery retail vendors praised the consolidation of retailer statement information in calendar year 2000. This consolidation provided the retailers with a single document for their accounting and billing information. This accounting information was also made available to all retailers through their terminal devices. To further enhance the delivery of this information, an interface was developed in 2001 that provides for personalized delivery via electronic mail. The E-Mail delivery method makes use of MS Excel as an attachment and allows the retailer to import their accounting information directly into their accounting or spreadsheet systems.

Module M2 Software Migration/Disaster Recovery Site

The background for this project is documented in the 2000 State of the State IT Report. In 2001, the Lottery's original ticket validation hardware platform was relocated to the off-site facility of the Lottery's online computer vendor, GTECH Corporation. This facility is located within 2 miles of Lottery headquarters and is the primary site for online Lottery games (i.e. Lotto, Pick3, Pick4, etc.). Upon relocating the Lottery's backup module to this facility, steps were completed and implemented to facilitate the use of this module as a backup processing facility in the event of a disaster at Lottery headquarters. Application software at this facility is kept 'in sync' with actual production applications. Data files are also kept 'in sync' where possible. Those data files that cannot be kept relatively current in a real time method are written nightly to off-site backup tapes. Since the off-site facility is used for the testing of software, the Lottery can be confident that the applications are ready in the event of a disaster.

Document Imaging System

A document imaging system was procured in 2000 and imaging has been implemented in phases. The pilot phase for imaging was the area of retailer licensing. This imaging system will provide customer service personnel with additional resources and timely information when dealing with retail customers. In 2001, implementation of 'cold' imaging files for Lottery's Accounting Section was completed. These 'cold' files are

computer generated electronic images for retailer statements, ticket invoices and online gaming activity. Future document imaging projects will include other applications that will enhance customer service to Lottery retailers, players and Missouri citizens.

Mercom Digital Recording System

Developed specifications and bid out a digital voice recording system. The system replaced a tape-based system that was slow to retrieve specific calls and didn't have the management information needed to adequately evaluate telemarketing representatives in a call center environment. The new system allows for real time monitoring as well as archiving of call information on hard drives and DVD drives simultaneously. Existing LAN PCs are used as the management terminals for the recording system.

Admin Service Correspondence System (ASC)

The ASC system was designed to facilitate submission, approval, progress and documentation of internally requested services. Service requests currently tracked include R&D reporting, facilities management and data processing. The system utilizes a customized workflow process that provides for proper management approval and input. Additional fields assist management with prioritization, effort estimates and project planning. The system is very robust and is also WEB enabled which allows access through the Lottery's Intranet WEB site. This application will enhance customer service to Lottery retailers, players and Missouri citizens by making Lottery services more efficient and effective.

Requisition Inventory Tracking System (RITS)

The RITS system was designed to track the current premium item inventory as well as provide a history base for each fiscal year per person and event. After filling out the purchase order and art request electronically, the purchase requisition will print out and the art request will be sent to the Art Director on-line. Once the art request is completed and the items are purchased, the purchasing department will fill in the appropriate information on the database (i.e. purchase number, vendor, etc). When the premium items arrive, the warehouse managers will send an "items received" alert through the Lottery's Intranet WEB site to the employee the items arrived for. Once employees accept the items into their inventory they will have the ability to 'check out', return or transfer their inventory through the database.

Local Area Network Cluster Server Upgrade

The installation of the Novell Cluster server, with access to a Storage Area Network (SAN), will allow for redundant access to user data storage and redundant access to network applications. This ensures high-availability of critical network resources, to include applications, server licenses, and services. We have also consolidated applications and operations onto the cluster server freeing up additional resources, thus avoiding costly upgrades to systems that were scheduled for upgrading this fiscal year.

Planned Projects

CY02 WEB Initiatives

The Lottery is committed to providing extraordinary customer service to its players, retailers, legislature and other agencies. The Internet provides a channel which, when properly configured, allows state-of-the-art technologies to give the customers what they want, when they want it. The Lottery is interested in providing information, education and entertainment to citizens through the Internet. This is a robust environment that allows the Lottery to disseminate as well as collect information. There are many applications and small projects affiliated with this initiative, including E-Business and E-Commerce usage that will streamline business and provide quality service to our customers. WEB projects anticipated include:

❑ Redesign of overall 'look and feel' of Lottery pages. We recognize that WEB presentation must remain fresh to keep the customer's attention. This will be completed in January, 2002.

❑ Retailer Access. Provide for retailers to have access to all of their accounting, sales and prize payment information via the WEB. Retailer application and licensing requests will be available through the WEB or online via sales representative field terminals/devices.

Marketing Status Quo

Based on past experience with the diverse environment of the Lottery industry, it is both anticipated and expected that a number of system requirements both large and small will be required in the coming year. These systems can and will be as simple as changing existing game matrixes to adding complete new products to the mix of Lottery offerings. These changes are inherently diverse and unpredictable as the Lottery industry is ever changing and reactionary to trends, legislation and marketplace. As in the past year, a number of marketing initiatives will involve the World Wide Web and will include use of surveys, second-chance draws and other promotions.

External Access to Email

The necessary procedures and methodologies will be developed to allow for employees to have complete access to their electronic mail from outside of the office. This access will be accomplished through direct dialup or through the employee's local ISP.

Revise Telemarketing Application/Ticket Ordering

With the ever-increasing call load for Lottery Telemarketing Reps, the need has arisen to change the current application to a user-friendly interface. The current application resides on the mainframe and has a number of limitations that make streamlining calls more difficult. The proposed system will reside on the local area network (LAN) and will be driven by a WEB-enabled Oracle database. The changes should allow for a more productive call and also facilitate retailer initiated ticket orders through more automated methods.

Accumulated Demand

The Lottery has a small IT staff and must rely on the ability of staff to be diverse and flexible in the technology disciplines used within the organization. The limited staff size can translate into lower productivity periods when there is turnover and the need arises to train new staff. There is currently a backlog of approximately 3.25 man-years of service requests and projects. The demand for IT services is changing from mainframe COBOL to WEB initiatives and ORACLE database applications.   Therefore there is some overhead in staff training and transition that has affected the backlog of requests.

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Department of Mental Health

Mission Statement

Our mission is to identify, apply, and support information and communications technologies that improve the effectiveness of the Missouri Department of Mental Health in its mission of helping all Missourians to lead lives beyond limitations.

Strategic Goals

In June of 2001, DMH completed a new Information Technology Strategic Plan for the department. We identified four goals for our IT organization.

- ❑ **Leadership:** Provide information technology leadership.

- ❑ **High Value, Cost-Effective Services:** Provide high value, usable, IT services while maximizing cost-efficiency of IT resources.

- ❑ **Information Delivery:** Provide access to high quality data and decision support services, while assuring appropriate confidentiality and security of all DMH data.

- ❑ **Staff and Customer Satisfaction:** Maximize the satisfaction of IT staff and IT customers.

Accomplishments

CIMOR

A major strategic initiative moved into full development during 2001. The department began the design and configuration of a new core information system called CIMOR – the Customer Information Management, Outcomes and Reporting system. CIMOR will replace many central and facility-based systems that track our consumers, providers, contracts, services, billing information, and claims processing.

The department has contracted with iServ Systems to configure and deploy a web-based application that will be used by all DMH facilities and by hundreds of DMH contracted providers. The department and iServ have jointly worked on requirements definition, data modeling, technical planning and deployment, and all other activities associated with a large-scale software development and implementation project. We plan to begin statewide deployment during calendar year 2002 and complete the full system implementation in 2003.

SAM II HR Implementation

The DMH was included in the fourth group for the implementation of the Human Resources Payroll/Personnel modules of SAM II. DMH IT completed infrastructure upgrades at all 30 facility locations, considerable data conversion analysis, coordination, and execution of conversion programs, and user support during implementation of the system. This was completed in June of 2001.

SAM II HR Enhancement

After successful implementation of the primary Payroll Personnel modules of SAM II DMH was instrumental in initiating implementation of some additional portions of the Employee Relations module of SAM II. For the Training/Tracking segment, IT assisted in the analysis of training and on-line input, which will be implemented in December 2001.

Data Integrity

DMH IT staff were assigned to the function of data monitoring and correction. Approximately 1000 duplicate/multiple client I.D.'s were detected and the data was combined into just one I.D. per consumer. DMH client systems are monitored and compared with data from the state Medicaid system to make sure DCN's and SSN's are correct and verified. Consumer addresses and race codes were analyzed in the department client tracking system, CTRAC, to determine accuracy in preparation for conversion to CIMOR.

CTRAC (Client Tracking System)

The OIS staff added ability to do admissions via web browser application for integration with SATOP and outcomes applications.

DMH Online Redesign & Reorganization

Rebuilt the DMH Intranet, DMH Online, to implement a new look and reorganized the information so it was more useful to users.

HIPAA Assessment's & Business Associates

Developed HIPAA Privacy and Security Assessments, which allowed a specific person(s) from each facility to enter data through a web interface and store information to SQL

Server. It allowed all the data to be collected in one place, instead of multiple data collection methods being used.

Employee Directory System
Developed a system for our Intranet, including all employees, starting with Central Office, complete with pictures and updated daily with basic data from SAM II HR.

SATOP (Substance Abuse Traffic Offender Program
Implemented a web-based SATOP application. Began statewide rollout.

CLAS
Completed and deployed a web application to support provider certification activities.

Outcomes
Developed and deployed a web application for gathering and reporting on outcomes information for DMH substance abuse treatment providers.

SPIN (Strategic Performance Information Network)
Developed an Intranet application for tracking action steps completed in response to DMH Strategic Performance Measures.

DSR (Decision Supporting Reporting)
Established a test environment and report development standards for reports. Decision Support Reporting, a web-based reporting portal on DMH Online, was implemented statewide Crystal Enterprise for SAM II HR. SAM II Financials, MSAS, and NAFS were also migrated to this application from a previous platform, representing a significant savings in the department's reporting software budget. Yearly cost reporting was also developed and refined and the results are available on the DMH Data Warehouse.

Reimbursements
Reimbursement was predominately in maintenance mode for the year of 2001. Format changes were made for Medicare Ancillary Billing and many minor enhancements were made to conform to rules and regulations infringed by Medicare and Medicaid as well as reports for improving billing monitoring.

Software Services
Social Security: DMH is working with the Social Security Administration (SSA) to obtain SSA information directly from SSA. This data will include Social Security and Supplemental Security (SSI) benefit amounts as well as data on Medicare eligibility (both Part A and B). Our Social Security number verification process will also be direct with SSA. This will speed the DMH processing of Standard Means Tests and give the DMH a much better understanding of the financial situation of our clients.

Technical Services

❑ *Local Area Network Modernization*

DMH upgraded Token-Ring and Twinax networks to a switched Ethernet-based LAN infrastructure, based on Category 5 wiring and Fiber Optic backbones. In addition to rewiring data networks, the DMH Facilities upgraded voice lines, replaced dialup equipment, and replaced network host interfaces. The modernization effort, initially prompted by SAM II, has moved the organization to a standardized monolithic network with the capacity to support multi-media and Web based enterprise-wide applications.

❑ *Windows 2000 Implementation*

This DMH project, initiated in the beginning of FY2001, has reached a major milestone in the replacement of the legacy NT 4.0 domain structure. The project, which includes end-user migration of over 5000 desktops, is on schedule and will be completed by the end of the 2nd quarter 2002. The Windows 2000 project is part of a consolidation and standardization effort with the goal of creating an adaptable computing infrastructure that is manageable, scalable, available and secure.

❑ *Desktop Management*

DMH is in the process of initiating a multi-year cyclical desktop replacement strategy with the goal of reducing the total cost of ownership through standardization. The initial phase of this multi-year project, to be completed this fiscal year, focuses on replacing Sub-Pentium I Class Desktops, standardizing on Windows XP and Office XP, and adopting desktop automation tools for OS Imaging, Inventory, and Remote Control. The DMH is adopting a holistic approach to desktop management in an effort to leverage limited IT resources and develop a fiscally responsible budget while maintaining an acceptable level of end-user support.

❑ *Wide Area Network Modernization*

The goal of the DMH WAN Modernization project is to improve statewide network capacity and quality through standardization and management. To be completed by the end of FY2002, this project updates key technology in five areas including: Routers, Dialup, Access Control, Access Methods and Virtual Private Networking. With these infrastructure improvements, the department will be well positioned to handle future data-communication requirements such as video conferencing and multi-media, while providing end-to-end data quality management at a cost-effective price.

❑ *DMH Computer Room*

In preparation for hosting the N-tiered web-based CIMOR application, the goal of the DMH Computer Room project is to build an application-hosting environment based on dynamically adaptable technologies that offer scalability, reliability, and

flexibility. Standardizing on the Microsoft .Net framework and Intel Server Technology, the DMH system consists of four integrated computing environments including: production, staging, development/test and training. Designed with management in mind, the web farm will employ technology to assist in system management, application management, network tuning, and storage management. With a scheduled completion by February of 2002, the computer room project will ultimately replace most of the stand-alone distributed computing systems within the DMH at a fraction of the operational cost.

Planned Projects

Data Warehouse Migration: ODS Creation Phase
The ultimate goal of the Data Warehouse Migration project is to establish consolidated information and reporting infrastructure based on standardized equipment and operational best practices. The initial phase of the project is the creation of an Operation Data Store (ODS) system, which serves the role of integrating data within the operational environment and represents a collective current view of the department's transactional systems. Data collected in the ODS is then aged, transformed, and passed on to the Data Warehouse. Building the ODS is the first part of the Data Warehouse project and is scheduled to start in December, 2001, and will be fully operational by the end of the 2nd quarter 2002.

SATOP Enhancement
We plan to implement the REACT supplement to SATOP along. SATOP will also be integrated into CIMOR, eliminating the CTRAC interface.

DMH Public Website
We plan to redesign our DMH Public web site to include more useful information and make it easier to find helpful information.

Outcomes
We plan to implement additional components into the Outcomes application. Outcomes will also be integrated into CIMOR, eliminating the CTRAC interface.

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Department of Natural Resources

Overview

The Department of Natural Resources' (DNR) mission is "to improve the quality of life and economic well being of all Missourians by fostering the prudent use and protection of our air, land, water, cultural, and energy resources." Core business functions that enable mission accomplishment include resource regulation and enforcement, service delivery, resource planning, management and support services.

The department's information technology environment exists to support the core business functions and consists of mainframe and mini computers, wide area networks and a variety of personal computers (PCs). The State Data Center (SDC) maintains the mainframe computer primarily utilized by the department. The SDC-managed mainframe hosts several significant software applications. Examples include a Public Drinking Water System used to support environmental policies and regulations and an Energy Loan System used to manage loans made available to schools for energy efficiency initiatives. Remote connections to other mainframe computers such as the United States Environmental Protection Agency's National Computer Center are also used to process large data sets.

Mini computers and PCs are used to support department Geographic Information System (GIS) activities, and laboratory analysis of water and air samples. Wide area networks service approximately 2,058 department employees by providing the data sharing links for the department's program, regional and district offices. Also, the PCs are an integral part of the network environment and used for a wide variety of automation activities such as word processing, data analysis, graphics tasks, and to access network and mainframe applications.

The Department of Natural Resources is committed to enhancing service levels by improving access to department staff and information. To help meet this commitment, the department completed an Information Strategic Plan (ISP) in 1995. The department's ISP identified customers, the services they require, and the information needed to provide those services. Implementation of the plan is proceeding and will promote enforcement activities, responsiveness to public inquiries and coordination of departmental

information systems. ISP projects will facilitate making information readily available to department employees, other state and federal agencies, and the Missouri public.

The automation environment implemented and maintained by the DNR facilitates the department's ability to promote an understanding of natural resource issues, advocate public debate and encourage environmental stewardship. It also promotes responsible economic development by providing access to information regarding environmentally safe practices.

Accomplishments

Current initiatives and accomplishments have occurred in three major areas: infrastructure, Internet and software systems. Also, all initiatives and accomplishments are interdependent. The DNR could not implement software systems and Internet capabilities without an appropriate infrastructure, and many software systems must be "web-enabled."

Infrastructure
Commencing with fiscal year 1996, the Missouri legislature approved several DNR appropriation requests that support ISP-identified projects. Of these, a FY1998 request focuses on the department's automation infrastructure and addresses two primary goals. First, the department's automation environment must be implemented and maintained in such a manner that it is ready to support emerging business needs. Second, the department must manage and control the cost of implementing and maintaining our data processing environment. In addition, the DNR continues to collaborate with the United States Environmental Protection Agency (USEPA) to address electronic reporting of environmental data. These on-going initiatives will facilitate the consolidation of reporting requirements, increase Internet access to data, reduce the reporting cost for industry and improve the integration of environmental data.

Fourth year automation infrastructure initiatives (FY2001) included cabling infrastructure items, network management tools, file servers, desktop hardware and software, and end-user and support staff training. Cabling infrastructure activities focused on upgrading the department's local area network environment to 100mbps-ethernet technologies. FY2001 was the second year of this five-year project. Sites upgraded included all St. Louis area offices, our Air and Land Division's Northeast Regional Office (Macon) and several Division of State Parks sites (Festus, Route 66, Brookfield and Booneville). Major communications components in our Jefferson City central office and our Geological Survey and Resource Assessment Division in Rolla were also upgraded to support this project. Finally, additional cabling efforts were needed to support the relocation of our St. Louis Regional Office and the renovation of the regional office in Macon. These tasks have increased data transfer capacity between department entities, enabled the implementation of robust department-wide Internet connectivity, and "set the stage" for

implementation of department-wide software systems. The greatly improved system responsiveness will facilitate enhanced departmental service.

As the department's communications infrastructure continues to evolve, utilization must be known to plan for growth and systems must be reliable. Therefore, during FY2001 the department continued to enhance network management capabilities by procuring bandwidth-monitoring tools. The department is now able to monitor communications equipment and perform capacity monitoring and trend analysis of statewide data circuits. These new capabilities compliment FY1999 and FY2000 efforts that included relational database (DB2) and Notes performance management tools; and remote software installation, configuration and auditing capabilities. During FY2001 the department's network management "tools" detected and stopped 8,800 e-mail virus incidents and "filtered" 314,000 incidents of "spam" mail. Also, filtering capabilities are now being used to prohibit access to inappropriate Internet sites. All network management capabilities support quick problem diagnosis, enables software license metering, extends fault-tolerant capabilities, and improves system reliability. Implementation of appropriate tools will continue to enhance the department's network management capabilities during the coming years.

Much has also been accomplished in the server consolidation category. The department's Lotus Notes e-mail and scheduling servers were upgraded, the server supporting the Geological Survey and Resource Assessment Division in Rolla was upgraded, the capacity of the department's automated disaster recovery system was increased, the server environment supporting application software activities was upgraded and a new "firewall" was implemented. These enhancements were required to support a 50% increase in the amount of data that requires nightly backup and a 61% increase in the volume of e-mail traffic. Also, software tools required to "web-enable" applications was purchased and installed on appropriate servers. In addition to improving efficiency and availability, these enhancements improve the department's cyber security capabilities and enable the implementation of new department-wide software applications - including e-government initiatives.

To maximize staff productivity and lower costs, the department continues to implement a standard desktop environment. During FY2001 PC Ethernet adapters, some security software, and PC configuration/management tools were purchased. In addition, eight Geographical Information System (GIS) workstations (including appropriate GIS software) were implemented at our Geological Survey and Resource Assessment Division in Rolla. Finally, operating system software upgrades (Windows 2000) were purchased for all department PCs and servers. Greatly improved technical support and training efficiencies have been realized, and the resultant standard desktop environment will facilitate cost-effective and timely implementation of department-wide software applications. These efforts will continue during the coming years.

With the growth of PCs, networks and communications requirements throughout DNR, the department needed to attain the expertise required to integrate and maintain the

resultant infrastructure. Training was also required for specific products such as the network management software, the firewall and the e-mail system. Therefore, during FY2001, 34 departmental automation support personnel received formal technical training.

In addition to the training our technical support staff receives, it is also important that we train our employees to use the automation tools provided to them. Therefore, employees and supervisors work together to determine which courses are appropriate. During FY2001, over 334 department employees attended training for topics such as SAM II, Microsoft Word, Excel, Access and PowerPoint; and the FOCUS query tool. New vendor training contracts and an "infrastructure" subsidy made it possible for employees to attend this training for 24 percent of what it had previously cost them. Most training accomplished during FY2001 was held at the department's computer training facilities, and training in all areas will continue to be a priority during the coming years.

Internet

The department's dynamic Web environment implemented to support public access needs continued to rapidly grow during FY2001. This environment has grown from approximately 50 Web pages of information in early 1996 to over 5084 pages currently. The public now accesses an average of over 315,000 department Web pages per month - an increase from the less than 100,000 pages per month accessed during FY1999. Currently, the department furnishes databases, technical bulletins and fact sheets to the public via the Internet, and we continue to receive requests from the public to provide additional Internet accessible publications and news releases. As examples: statewide Air Quality Monitoring data is collected electronically on a daily basis. This data is then manipulated into approximately 30 Web pages with over 70 graphics and published every Monday on the Internet. Also, the DNR now provides an online form that the public can use to report illegal dumping, an electronic subscription card for our Missouri Resources magazine, and order forms for land records and other Geological Survey and Resource Assessment Division publications.

Ultimately, the department's web environment will become an environmental information system that will support compliance assistance by facilitating the development of industry sector profiles that will highlight the industries and the types of facilities in particular that are subject to various cross-media requirements. Goals include providing Internet access to cross-linked environmental data, consolidating the reporting requirements of regulated facilities and supporting a facility-wide approach to permitting, enforcement, and inspections. The cross-linked information will strengthen decisions made within the department and impact the decisions of others. It will facilitate an improved understanding of resource issues and informed decision making. Instead of going to numerous programs and agencies for information concerning one entity, the public and staff will be able to access our Internet site and link multiple air, soil and water issues to that particular entity.

The Web provides a forum for exchange - an opportunity to collaborate and communicate with the many stakeholders involved in natural, energy and cultural resource use, protection and preservation. Access to environmental data will act as a catalyst for citizens, facilities, and organizations. It will encourage them to consider the environmental impact of their decisions and actions, facilitate public debate on natural resource issues and encourage improvements in the data collected.

Software Systems

The DNR is facilitating the efficient and accurate collection of air pollution emission inventory data and fees by phasing in a system that will eventually take full advantage of Internet technology. This new system, the Missouri Emissions Inventory System (MOEIS), will provide the regulated community the ability to electronically submit Emissions Inventory Questionnaires (EIQs) through a Web portal. The e-government and government-to-business transactions will make the emissions inventory process more efficient and will reduce the reporting burden of the regulated community. This can mean significant savings for large companies. Electronic submittal also reduces entry errors and improves data integrity.

The Cultural Resource Inventory System was re-engineered to provide additional functionality, incorporate geographic information system (GIS) components and to prepare the system for web enabling. The water pollution system (i.e., the Water Quality Information System) was enhanced to support the Total Maximum Daily Load (TMDL) project, GIS initiatives, future permit limitations and the new fee bill that became effective during August 2000.

Finally, the DNR successfully implemented phase II (i.e., the human resource component) of the new Statewide Advantage for Missouri (SAM II) system on April 1, 2001. Phase I (i.e., the financial component) had been previously implemented on July 1, 1999. Unlike phase I, no computer hardware upgrades were required. However, phase II of the department's SAM II implementation required significant conversion, software distribution and application development efforts. Over 35 SAM II human resource reports and a performance appraisal database were developed.

Planned Projects

All of the above listed infrastructure, Internet and software initiatives must, and will, continue to evolve. Specifically, e-government (i.e., Web) projects will ultimately simplify citizen, business and government interaction. The department's efforts will focus on reducing our customer's cost to file "hardcopy" returns and forms to meet regulatory requirements. The department will also realize improved processing time and cost savings through reduced labor previously required to enter data and process paper. Hence, overall benefits will include more efficient department operations and improved customer satisfaction.

Geographic Information System

The department will create a centrally managed Geographic Information System capable of serving the data and mapping needs of the department and its constituents. It will enable the department to address spatial technology issues from a global perspective and will facilitate improvements in the way the department operates by providing the information the department collects in formats that will increase its availability, understanding and usability by stakeholders and decision-makers. The system will be the focal point for ongoing data system integration efforts, and will facilitate a better understanding and management of our natural and cultural resources by providing the department and the public with interactive mapping capabilities through the World Wide Web. The development and implementation of this system will be a key to turning the vast stores of departmental data into useful and easily comprehensible knowledge.

Safe Drinking Water Information System

After working with the US EPA for over two years, during FY2002 the DNR will implement the EPA provided Safe Drinking Water Information System (SDWIS). The SDWIS will be used to manage drinking water information and it will facilitate more complete data reporting to the EPA. Also, SDWIS has the ability to electronically capture sample results directly from labs; thus reducing the number of staff dedicated to data entry and the time used to correct data errors. SDWIS will serve as the long-term primary data system for DNR's drinking water data management needs.

Communications

From a statewide perspective, communications needs resulting from data center consolidation efforts, the rapid growth of client-server applications and the deployment of multimedia services mandate the need for a communications-computer environment designed to integrate robust corporate data bases with an evolving, powerful PC-based multitasking environment. To address this need and to facilitate cost-effective and efficient operations, the DNR will continue to aggressively pursue partnerships with other state and federal agencies.

Software Projects

Many of the ISP identified projects are interdependent, and all current and future initiatives originate from them. All ISP software projects will adhere to the statewide strategy of utilizing IEF software development methodologies. Additionally, an integral part of the target communications-computer environment is a standard hardware and software environment. All emerging department standardization strategies will adhere to evolving statewide standards. The ISP projects personify the statewide strategy of focusing on access, optimization and innovation when providing services and making information readily available and easily accessible to the Missouri public. Resources are being shared and used to their maximum potential and solutions are being implemented in a manner that provides the greatest overall benefit.

Accumulated Demand

Maturation and enhancement of current system capabilities are important as the department focuses on quality and delivery of excellent, reliable service. The department has identified over 30 applications that should be web-enabled to support public access requests. A robust, evolving infrastructure must be implemented and maintained to meet this demand. These public access needs must be supported and department employees must have reliable communications-computer systems to facilitate quick decisions and actions as they strive to fulfill the DNR mission.

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Missouri Public Defenders Office

Overview

The Mission of the Missouri State Public Defender System is to provide high quality, zealous advocacy for the people who are accused of crime in the State of Missouri. All Information Technology Projects are initiated in support of this mission and strive for enhanced quality and savings in all business processes. Collaboration and sharing with other state agencies has enabled Public Defenders to further exploit technologies to increase efficiencies in every area of business.

Accomplishments

Shared Application Development and Increased Efficiencies

The Public Defender System has implemented electronic signature on all timesheets and now has a completely paperless time keeping system. This application has been shared with the Department of Natural Resources, Office of State Courts Administrators, Office of Administration Information Services, Natural Resources, MoDOT, Insurance, and Agriculture.

The Public Defender has adopted the electronic expense report system developed by the Department of Elementary and Secondary Education. This database is used to help offices track their travel expenses and make the submission of expense requests faster, easier, and more accurate. Security is in place so that individuals have the right to view or edit only their own expense reports or those of their subordinates.

The Information Technology Division is using a help desk call tracking system that was developed by the Division of Family Services. Increased efficiency has also been seen in the Lien and Recoupment area. The manual system of submitting tax intercept requests to the Department of Revenue has been replaced with a faster electronic option that does not involve the intervention of IT staff.

Infrastructure Changes

Moving the physical location of offices creates an on-going responsibility for the information technology staff. New locations must be wired for computers, telephones, and network access. The State Public Defender's enabling statute 600.040.1 requires that counties provide the office space and utilities for the Public Defender. The location of the physical plant of local Public Defender offices depends upon the ability and/or willingness of local county governments to provide office space. Under the current statute, the Public Defender administration has little control over where offices are located and the number of times they must move.

The wide area network infrastructure was reconfigured and enhanced. The upgrade was necessitated by the increased need to access up-to-date legal information on the web, to keep anti-virus software up-to-date, and to provide network access to Public Defender staff independent of their physical location.

Safeguarding Electronic Information

Due to the proliferation of computer viruses, much time was spent researching and developing a comprehensive virus protection deployment system. This new system completes daily automatic updates on both the user workstations and all system servers. Centralized management alerts administrators about possible infections and allows for swift action if an outbreak occurs.

The backup of electronic information is customized to meet the needs of the Public Defender System. Off-site storage and the auditing of backup success are key components that assure the recoverability of data.

Securing electronic information from unauthorized access is a high priority. All areas of securing data are continually updated and new security technologies are researched and implemented as necessary. However, the physical security of equipment continues to be a significant concern because the Office of the Public Defender does not control it's own office facilities.

Enhanced Case Management System (Capital, Trial, Appellate)

Capital Division cases are very document intensive. There are hundreds of documents, correspondences, and records attached to each case. A new system was deployed that allows attorneys and managers to view the status of each case without having to review all of the individual records. At a glance, this system can give detailed information about the who, what, when, and where of all major milestones of the case.

Management of case activity for all divisions was enhanced by increasing the types of activities tracked and adding results to court dates. Now when a case has three or more trial settings, managers and attorneys can easily view which cases were continued, cancelled, or held.

All three Case Management Systems were redesigned to allow for local forms to be under the control and customization of each office. Sharing of knowledge was improved by incorporating the system-wide Motion Bank into the Case Management System.

Training

The Information Technology Division of the Public Defender System continues to deliver customized training to all employees on such topics as case management, computer based trial presentations, and the use of multi-media products. This training as been specifically developed to target information and tools that Public Defender employees need to fulfill their mission more efficiently. Employees trained included attorneys, legal secretaries, and paralegal investigators.

Planned Projects

Shared Application Development and Increased Efficiencies

The Public Defender System will continue to use technologies to increase efficiencies and enhance the delivery of service. We will also continue to share application development and technology knowledge with other state agencies.

Electronic Bulletin Board

The Public Safety Commission developed a system for publishing new announcements, events, and services to their employees. The Department of Insurance also developed a home page and announcements databases to communicate with staff. The Public Defender System will utilize these systems to customize our own employee information portal. This system will also incorporate a Policy and Procedures database.

Electronic Request and Approval

Additional implementation of electronic request and approval with electronic signatures on Public Defender processes will reduce fax and mail costs associated with paper.

Upgrade of Hardware and Software

Information Technology staff will upgrade all operating systems and application platforms to the newest versions. The upgrade will allow for easier remote management of computers and will increase the ability to develop applications that are portable and independent of client software. This upgrade will also keep our system consistent with other state agencies.

Accumulated Demand

With the pervasiveness of computing comes concern for support, training, web page design, application requests, and the implementation of new hardware and software. There is a continuing backlog of new application and enhancements requests, as well as expectations for connectivity and statewide access at 24X7 availability. Business requirements, process improvements, and electronic procedures that enhance existing systems will be addressed as personnel availability allows. Information technology staff retention is the key to reducing the accumulated demand and moving forward at a pace required by our client needs and the expectations of Missouri citizens.

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Department of Revenue

Accomplishments

WEBFile
After a successful small-scale pilot in 2000, the department launched a more robust WEBFile application that allowed 5,000 Missourians to file their Missouri personal income tax returns over the Internet, at no additional cost. The application was developed in a brand-new web environment, WebSphere webserver on an IBM 390 mainframe. For the first time, tax payments were accepted by credit card. This was accomplished via a partnership with a third-party acceptance company.

Online Renewals
During 2001, the Division of Motor Vehicle and Driver Licensing began work on an application to allow the renewal of license tags over the Internet. This is also a Java application in the mainframe webserver environment that worked so well for the WEBFile application. The project has a January 1, 2002, deployment date, and at the time of this report, it appears to be on track and on time.

Consolidated Registration (COREG)
New business owners in Missouri must register with several agencies, including the Department of Revenue, before they can open their doors. CoReg is designed to make the business registration process easier. Another mainframe web application, CoReg will allow business owners to complete nearly all the registration process online. The new program is expected to be available to the public in early 2002.

State Tax Rate Geographic Information System (STRGIS)
Missouri taxpayers have approved a wide variety of sales taxes in their cities and counties over the years. Sometimes, it's hard to find a town's cumulative sales tax rate. This project is aimed at making it easier. Using GIS technology, STRGIS will allow users to type in a street address and find that location's exact sales tax rate, with a breakout of the different tax types that make up the rate. This project is also scheduled to be online early in 2002.

Motor Fuel Tax

Fuel tax in Missouri is collected from fuel distributors who do business here. This project is designed to permit online filing of fuel tax returns and payments. As with many of these web projects, the motor fuel tax project will ease the process for the taxpayers. This project has a completion date of 2002.

Enhanced Sampling Program (ESP)

The purpose of this program is to increase the number of insured private passenger motor vehicles on Missouri roads and highways. Laws passed in 1999 and 2000 provided for suspension of uninsured motorists' plates and driver licenses, as well as the funding to enable the ESP. Insurance companies report their records monthly to the DOR, which uses the records as the basis of a sampling program to verify insurance status and suspend those who are uninsured. An Internet application allows insurance companies to transmit their records over the Web.

Online Forms

Every area of the department now offers forms to the public for downloading, viewing and printing. The convenience of this service is demonstrated by the consistently high usage each of the available forms receives. As forms technology continues to evolve, the department expects to improve access, features, and functionality of its online forms.

INTERNAL PROJECTS

❑ **Help Desk**
In an effort to more fully understand its IT service requirements, the department invested in a commercial help desk tracking application. The implementation of this software and system will allow the department to gauge usage, problem reports, and other service statistics in a more systematic, scientific way. The benefits will accrue to the department as a whole, individual computer users, and by extension, the public who rely on departmental computer users to provide them with the answers they need.

❑ **E-mail Automation**
As e-mail becomes more and more prevalent, the department has faced an increasing load of e-mail to process and answer. In 2001, the department installed a commercial automation system that will allow tracking, faster answers, and a better record of responses throughout its operation. This system should be fully deployed in early 2002.

❑ **Case Management Systems**
Systems to help the Criminal Investigation Bureau and the General Counsel's office track their cases were implemented in 2001. The automation allows these offices to better monitor progress and measure workloads, as well as enabling more collaboration. Fully operational in 2001, the systems continue to be improved and enhanced.

Planned Projects

Web-based In-house Productivity and Collaboration Tools
Several DOR teams are investigating the use of commercially available collaboration tools to permit easier exchange of documents and ready information for employees.

Customer Relationship Management (CRM)
DOR continues to investigate the use of various systems and software to improve the way we manage our customer relationships. These include the use of call center tools, systems to integrate customer contacts from various sources, and industry standards for contact management.

Alternative Delivery Projects
As the agency with which most Missourians must contact on a regular basis, DOR must have ways for all types of people and businesses to obtain information. A new strategic initiative seeks to find ways for people who don't speak English as their first language to communicate with the department. Also, the initiative is investigating ways technology can help DOR reach taxpayers, and how DOR can continue to make services more readily available to those who are disabled.

More Interactivity
DOR is looking into providing more avenues for taxpayers to complete simple transactions over the Internet, thus providing greater access and efficiencies where possible. This trend mirrors expectations and developments in industry, where interactivity is becoming more important in Internet applications.

Accumulated Demand

Intranet Information and Applications
Many of the initiatives that are waiting for action revolve around providing information to DOR employees. The benefits accrue not only to the employee, who then has information at his/her fingertips, but also to the taxpayer, who can interact with employees that are more effective and knowledgeable contacts.

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Office of the Secretary of State

Accomplishments

Infrastructure

This project includes communications and server upgrades. The wiring upgrade is continuing. This includes eliminating all the CAT 3 wire and replacing it with CAT 5 or better wiring. With the increase in use of technology we have a need to expand our storage capacity. Additional software to assist in the management of the infrastructure has been licensed. This would include such products as Help Desk, System Managed Storage, etc. All of these efforts move us to preparing a quality solution with minimal impact to the ongoing production work at the Secretary of State.

Uniform Commercial Code

A new application was implemented in the third quarter of this calendar year. This provided the UCC unit with a technology solution that supported the Revised Article 9 Regulations. New information related to UCC filings was made available on the web as a result of this solution being placed in production.

Planned Projects

Infrastructure

Continue to upgrade the communications and server components. Continue preparing for the implementation of 2000 product line from Microsoft. This will require additional upgrades at the workstation level depending on the customer's business needs. Implementation of this project ensures that a stable and supported production environment is available to the customers of the Secretary of State.

Organizational

Policies, procedures and standards are being developed to ensure a consistent framework within the Information Technology Division. This will allow for cross training of staff and assist in problem resolution as well as contribute to better customer service.

Statewide

Participate in statewide initiatives that allow the agencies of Missouri to provide better services to the citizens through the use of technology. This would include the E-Government and the Architectural Standards initiatives.

Secretary of State

Continue to utilize the Internet to provide technology solutions to the business areas of the Secretary of State's Office. This will allow more information to be available to the citizens.

Accumulated Demand

The backlog exists in both the Application Services and Network Services areas of the Information Technology Division. There are currently 20 to 30 projects identified at this time that will need information technology resources to assist in the solution.

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Department of Social Services

Accomplishments

Missouri Automated Child Support System

The Missouri Automated Child Support System (MACSS) was developed in compliance with the 1988 Family Support Act that mandated each state child support agency install a statewide, comprehensive management and information computer system. Representatives from the Department of Social Services, Office of State Courts Administrator, county circuit clerks and prosecuting attorneys worked together to design and develop MACSS to meet their requirements and the mandates of the federal legislation.

Implemented in September 1998, MACSS is a single statewide system that maintains one record of case data that is shared by all involved in the child support community and provides the following:

- ❑ On-line processing for the most up-to-date information,
- ❑ On-line financial processes including bank reconciliation, daily processing of receipts, distributions and disbursements,
- ❑ Automated support calculations, automated non-custodial parent location and automated enforcement.
- ❑ Centralized collection distribution of child support collections (implemented in December 1999).

The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 required states to implement major changes to retain federal certification. Changes to distribution accounting, federal case registry and federal data match were implemented December 28, 2000 to comply with PRWORA requirements.

In calendar year 2001, the remaining PRWORA non-certification enhancements were completed. On September 28, 2001 all maintenance enhancements and new development for the MACSS system was turned over from IBM, the development contractor, to the Information Services and Technology Division.

Major enhancements implemented after system turnover include; the ability to reconcile Family Support Payment Center (FSPC) accounts, annual payment processing fee for Non-IVD Custodial Parents, and the processing and resubmittal of IRS Administrative Offset rejected SSNs.

Electronic Benefits Transfer/Direct Deposit

The Department of Social Services' (DSS) provides clients two methods to receive electronic benefits: direct deposit to bank accounts and electronic benefits transfer. Direct deposit uses the payees' personal bank accounts, thus avoiding the need for the state to establish and maintain an EBT account.

Missourians who qualify to receive Food Stamps and Temporary Aid to Needy Families (TANF), may also access their benefits via Electronic Benefits Transfer (EBT), using a Personal Identification Number (PIN) protected plastic magnetic stripe card. The EBT card can be used at most of Missouri's ATMs to withdraw TANF cash benefits. It is accepted by grocers who participate in the federal Food Stamp program for debit purchases of approved food products.

Implemented statewide in May 1998, Missouri's current EBT system saves taxpayers approximately $1 million in operating expenses per year. Enhancements to the EBT system that have been implemented are:

❑ Established an 800# for financial institutions to access an automated voice response unit for enrolling TANF recipients in direct deposit accounts.

❑ TANF recipients can now use the Missouri Financial Institution Product Summary to select a no-cost or low-cost account that meets their needs. The summary, compiled in conjunction with the State Treasurer's Office, lists banks, credit unions, and savings and loans that offer no-cost or low-cost accounts.

Family Assistance Management Information System

The Family Assistance Management Information System (FAMIS) is a statewide, automated, integrated eligibility system for DSS programs including Child Care, Food Stamps, Temporary Assistance to Needy Families (TANF) and Medicaid. FAMIS will calculate benefits, produce notices to clients automatically and provide reports for case management and supervisory management for all levels of program administration.

Roles and responsibilities of the Income Maintenance caseworker continue to change dramatically, particularly with the passage of the Welfare Reform law. FAMIS will be essential for maintaining service delivery levels as eligibility determination continues to become more complex.

❑ FAMIS will automate labor-intensive processes, thereby speeding delivery of services to clients.

- ❑ FAMIS will standardize benefit eligibility determination, thereby reducing error rates.

- ❑ FAMIS will free up staff time that will be redirected toward the new welfare reform goal of helping clients become self-sufficient.

Resource Directory, Provider Registration and Child Care components are operational in the FAMIS system. Pilot implementation of the Food Stamp components of FAMIS is scheduled to begin in May 2002.

Prince Hall Family Support Center

The Prince Hall Family Support Center (PHFSC) was established and operates under the authority of the Missouri Department of Social Services. The facility was established to serve as a family resource center following the family support programs concept. PHFSC is developed on a model, incorporating five basic family support practices: community-based programs and services, family focused programs, family empowering programs, family skill building, and culturally responsive programs and services. The facility consists of twenty Missouri state and private not-for-profit agencies joining in the effort to provide services in a comprehensive, integrated and holistic manner.

A client information tracking and referral system was developed and is available for referrals and scheduling of appointments with various on-site agencies. Three Department of Social Services' agencies (General Services, Family Services-Children's Services, and Family Services-Income Maintenance) are currently using the client information tracking system.

Equipment Installations/Network Upgrades

Information Services and Technology Division (ISTD) Technical Support staff maintain a statewide telecommunications network, install and, upgrade computer equipment in county office facilities and install and configure software needed throughout the state. In 2001, the following activities were completed:

- ❑ Installed 207 personal computers in the state's metropolitan areas for SAM II.

- ❑ Installed over 1,300 personal computers for the Family and Children's Electronic System (FACES).

- ❑ Installed routers and switches in every Division of Family Services' office to establish an Ethernet base for connecting future purchased personal computers and printers and converting existing token ring devices.

- ❑ Logged over 110,000 travel miles servicing our office sites.

Legacy Systems Enhancements

Information Services' staff support 45 production systems with 54,000 application programs. There are over 500 outstanding service requests that have been submitted by

program customers. Critical to maintaining production systems and reducing the backlog of service requests is retaining staff. Resources that were required to successfully address Y2K and staff turnover have contributed to an increase in outstanding service requests. With current staffing levels and assuming no additional federal mandates, the backlog of service requests will require at least two years to complete. Legacy Systems enhancements implement in 2001 include the following:

- ❑ Implemented federally mandated Common Area – Department Client Number race code conversion,
- ❑ Implemented federally mandated Medicaid reinstatements for TANF clients,
- ❑ Implemented direct deposit for Energy Assistance payments to utility companies,
- ❑ Implemented federally required Child Abuse and Neglect reporting enhancements,
- ❑ Developed SAM II financial payment interfaces and recoupment process,
- ❑ Developed SAM II financial vendor payment interface and SAM II HR conversions,
- ❑ Implemented Claims and Restitution federal reporting and tax offset enhancements,
- ❑ Implemented federal Medicaid eligibility for 60- month tracking,
- ❑ Implemented Grandparents as Foster Parents program enhancements,
- ❑ Implemented PACE (elderly care) and delivered meals enhancements,
- ❑ Implemented Family Care Safety Registry interface to Department of Health,
- ❑ Implemented Foster Care enhancements adding one additional payroll, Firstar Bank interface, GTE interface for recouping rehabilitation service funding, history tracking and SSI application and approval tracking system,
- ❑ Implemented Internet and automated voice response systems access to Division of Aging nursing home employee disqualification list,
- ❑ Converted to new state banking (Firstar Bank) interface for assistance checks,
- ❑ Implemented systems enhancements to enable Managed Care Eastern Reenrollment.

Planned Projects

Electronic Benefits Transfer/Direct Deposit
With approval of a FY03 funding request, approximately 140 EBT camera systems currently installed in county offices throughout the state will be replaced. Camera replacements will require that the attached PC workstation must also be upgraded. EBT camera systems are used to transmit digital photos of clients through the DSS telecommunications network that are matched to mainframe case data and electronically transmitted daily to a vendor to issue EBT cards to clients. Photos of clients on EBT cards are required under Missouri statute.

Missouri's current EBT contract expires in January 2003. An RFP for a new contract was released in September 2001, with proposals due by December 20, 2001 and contract award recommendation planned for March 2002.

Missouri Automated Child Support System

In the calendar year 2002, multiple user identified change requests, approved by the Change Control Board, will be incorporated into MACSS as funding permits.

Family Assistance Management Information System (FAMIS)

Analysis for the food stamp phase was completed in 2001; specifications were written and development is in progress. Pilot of the food stamp phase is scheduled for spring 2002, with statewide rollout to be completed in early 2003.

Prince Hall Family Support Center

In 2002 the client tracking/referral system will be enhanced to expand use to other state agencies and not-for-profit service providers that offer services at PHFSC.

Health Insurance Portability and Accountability Act Of 1996

The Health Insurance Portability and Accountability Act of 1996 provides for standardization of electronic patient health, administrative and financial data. This legislation requires use of a standardized transaction codes to identify medical procedures with stringent privacy and security requirements for individually identifiable health and financial information. In 2002, system modifications to identify Medicaid reimbursable expenses using standardized codes and privacy awareness and training will be initiated.

Distance Learning Initiative

The Distance Learning initiative consists of a partnership with Missouri National Guard to provide facilities and telecommunications links for DSS training efforts. Though the original discussion concerned only eLearning, the scope has been expanded to include the use of Guard facilities and network on an interim basis for DSS business continuity. Wireless technology capability and cost are being assessed for use in distance learning and disaster site recovery in the event of a wide area disaster or if a county office facility is unavailable. A formal agreement addressing cost and DSS partnership obligations has been drafted and is being negotiated. In 2002, a proof-of-concept for training delivery will be followed by regularly scheduled classes.

Equipment Installations/Network Upgrades

In the latter part of 2001 and continuing into 2002, ISTD will install 127 personal computers for the Division of Family Services (DFS) and Division of Youth Services to use for SAM II. There will also be 336 new printers installed to replace old line printers in DFS offices. Approximately 8,000 personal computers and 1,700 printers will be converted from token ring to Ethernet. Pending funding approval, wide area network bandwidth will be upgraded and sites not already on frame will be moved to the department's frame relay network.

Accumulated Demand

Missouri Automated Child Support System

As of October 2001, a total of 500 change requests have been identified by the program agency for possible enhancement/revision of the MACSS system. New federal regulations proposed, if adopted, will further change child support payment distributions and system accounting structure.

Family Assistance Management Information System (FAMIS)

Information Services and Technology Division staff assumed responsibility for maintaining the FAMIS Child Care system in November 2001. Additional maintenance staff will be necessary when the FAMIS food stamp component is implemented. The reauthorization of the Food Stamp Act (in 2002) may require extensive modifications to the system by mid 2003.

The next phase of FAMIS will be Temporary Assistance to Needy Families/Medicaid Programs. Some analysis has been completed on this phase, but a development schedule has not been defined at this point.

Electronic Benefits Transfer/Direct Deposit

Replacement of camera systems is necessary because maintenance and repair parts will not be available after July 1, 2001. Fiscal Year 2002 funding for camera replacements, included in the DSS network upgrade request, was not approved. ISTD has submitted another fiscal year 2003 network funding request to enable camera replacements.

Depending upon the award of the new contract, modifications may be necessary to the existing EBT system. The departmental client number (DCN) contained in the EBT system will be expanded to 10 bytes by January 2003 for the new contract.

Prince Hall Family Support Center

Maintaining the client tracking/referral system and the kiosk system and implementing an equipment replacement program are essential to PHFSC service concept. Provider agencies at PHFSC will require system enhancements as program services offered are updated or changed.

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Office of the State Courts Administrator

Accomplishments

The Statewide Judicial Information Network

The statewide network linking all Missouri courts remains a successful component of the Missouri Court Automation Program. Due to its success, there has been an increasing traffic load on the network, causing the Office of State Courts Administrator to begin replacing many of the phone lines with fiber connections to efficiently support increased information loads. Although an increased cost, these new connections continue to (1) save the citizens of Missouri money through shared use with the Missouri Department of Social Services and the Missouri State Highway Patrol, and (2) improve service by providing increased capacity and speed with significantly reduced downtime. This partnership is yet another successful component of the SJIN.

Infrastructure

This calendar year brought completion of the initial infrastructure in most Missouri courts. There are four courts that are awaiting final installation of the infrastructure due to remodeling efforts or new buildings. However, the planning for these courts is complete and the remainder of the initial infrastructure has been accomplished.

Lotus Notes Project

100% of Missouri's Judges and Clerks are now using the Lotus Notes e-mail and database software, selected as a standard for the Missouri Court Automation Program. This system enables judges and clerks to communicate efficiently, share business practices and resources, and participate in secure, peer discussion groups. The software also allows the general public and other state agencies to interact with court personnel. As with any off-the-shelf software, there are points in time when an upgrade is necessary. This year, OSCA began an upgrade to Lotus Notes R5. OSCA personnel have completed web-based training as well as the upgrade. Training staff and information technology personnel are now working to train and upgrade all court staff. The ability to design a web-based training program for users was a major success and will provide cost savings

in personnel and travel as the upgrade is completed throughout the remainder of the Judiciary.

Case Management System
In partnership, Missouri court staff and Office of State Courts Administrator staff continued an aggressive rollout of the statewide case management system. This calendar year, 28 courts implemented the software. An additional 15 courts will be added by December of next year, depending on funding.

Jury Management System
This was a successful year for installation of a jury management system to assist Missouri courts with jury processing procedures. It was originally anticipated that no more than twenty requests for the software would be received. To date, one hundred four counties (some having multiple locations) have requested JMS. This year, JMS was installed in five pilot sites, followed by twenty-one additional counties. Successful installations have been routine for this product.

Case.Net
Lawyers, litigants and Missouri citizens have been most excited about the benefits of the OSCA developed software, Case.Net. Case.Net allows courts using the statewide case management system to display their public case information through the Judiciary homepage. The general public can search for public case information using name, case number or filing date without making a trip to the courthouse or having to wait for a clerk to be able to assist them by looking up or printing a file. This year, an additional success was the upgrade of Case.Net to include a statewide search function. Thirty-three courts and the statewide Fine Collection Center now post their public information on this system.

Electronic Data Transfer
This year, OSCA-IT staff provided the statewide Fine Collection Center with new technology that enables it to transfer cases electronically to member courts using the statewide case management system. The ability to electronically transfer information eliminates double data entry for court clerks and increases the efficiency of the traffic court system for the citizens of Missouri.

Change in Vendors
Two vendor changes occurred in 2001. First, SCT Government Solutions acquired Omnitech and its Jury Management software. This placed two of the standard software systems for Missouri under the same vendor. Then, later in the year, the Fortune 1000 company Affiliated Computer Services (ACS) acquired SCT Government Solutions. This acquisition increased the strength and support of our vendor, but required a name change for both software systems to comply with trademark laws.

The case management system, formerly known as *Banner,* was renamed to ACS Justice Information System or JIS. The *SCT e-Juror* system was renamed ACS Jury Management System or JMS.

Planned Projects

❑ With continued funding, aggressive rollout of the statewide **case management system**, JIS, will continue. Well over half of the Missouri court caseload will be handled by this system at the end of 2002.

❑ The **jury management** system, JMS, will also continue rollout next year. With requested funding the system will be installed in all courts requesting this software by the end of the year.

❑ With the completion of the Lotus Notes upgrade for OSCA users, the remainder of the Judiciary Notes users will begin training and receive the **Lotus Notes R5** upgrade.

❑ An **Electronic Filing** system is a top business need for both courts and their clientele. Prior to implementing an electronic filing solution, however, the technology must be able to support an intake of information without a need for double entry on the part of clerks, and without breaching any security firewalls for those attempting to submit information. Emerging XML standards, which we are watching closely over the next year, may provide the needed technology foundation to support electronic filing.

❑ **Document management** is a highly complex subject that incorporates traditional retention and disposal of records, electronic and photographic imaging of records, the flow of documents through business processes, and the creation storage, retrieval, access and security of documents. With funding, OSCA-IT will establish the scope and business requirements for a document management system to support the core business activities of courts and identify "best practices" to manage the massive records burden currently facing by the courts.

❑ Although this year finalized most of the **Juvenile Enhancements** to the case management system, the system has not yet been ready for a full pilot program. A plan is in place to pilot the juvenile platform this year and once successful, begin rollout to all juvenile offices in the state.

❑ As a result of user evaluation sessions this year, there is a **planned upgrade** of the JIS case management system. This upgrade will occur in two phases. First, the new software will be placed in courts currently using the system. Phase two will incorporate changes in areas identified by users as the most problematic for Missouri Courts. Depending on funding, this upgrade will occur while rollout of the system continues and the juvenile enhancements are being piloted.

Accumulated Demand

The Missouri Court Automation Program has significantly changed the way that Missouri Courts do business. The family of automated systems must continue to be supported now that they have become a part of the business culture of the courts and have set an

expectation of what services courts will be able to provide to Missouri citizens and other state agencies in the future.

Shrinking budgets and lacking resources present a series of unique challenges for the Missouri Court Automation Program. There is a need to balance a requirement for specialized staff, an increasing demand for new technology solutions and timely assistance with IT support. We are also faced with retaining qualified IT staff in the government sector while resources are slim.

Forty-seven courts are waiting to receive the statewide case management system, and a few will still need installation of the jury system. In addition, courts that are currently using JIS will be ready to complete phase two of the upgrade process, making the system more useful and compatible with Missouri court processes. After a successful pilot, juvenile courts will be ready to receive their version of the case management system, helping them better manage increasing caseloads. The program will soon be at a stage where both electronic filing and document management will become increasingly critical to courts.

Information technology solutions have helped the Judiciary improve service, increase its ability to share public information and improve its statistical reporting tools. However, technology must continue to be supported in order to continue its effectiveness.

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Department of Transportation

Overview
The Changing Role of IS
Information Systems (IS) business units all over the world have been experiencing many trends which have demonstrated that there is a shift in the way people view the role of IS as a business. Information technology (IT) systems must now add value to department business strategies by providing people with useful information that helps them collaborate with others and present ideas in more convincing ways. In addition to being value-added, IT systems must be flexible and adaptable to easily integrate with a myriad of data types and formats. As the need increases for access to more "valuable" information, so likewise must efficiency and effectiveness increase in the way IS departments deliver services to its customers.

The impact that "valuable" information has upon organizations and their information systems teams is far reaching. Not only can the quality of information change the strategic objectives pursued by an organization when making business priority decisions, but it can reset the technical goals which IS departments may have planned to pursue. Because of this ever-increasing need for more "value-added" information and the constant shift in business priorities, IS departments must become more customer-focused and nimble in the manner in which they deliver services to their internal customers.

MoDOT's IS division has been no different than other IS divisions who must face and develop strategies to meet these kinds of challenges. In order to place a stronger emphasis on customer focus and deploy IT services that could be both flexible and adaptable, MoDOT's IS Director, Lew Davison, led the IS organization through a major transformation. Based on a model called "Structural Cybernetics", this multi-faceted transformation positions IS departments to meet the increasing demand from customers to produce more value-added systems, but at the same time keep up with the latest changes in the technological environment. It redesigns IS roles into a business-within-a-business model that promotes functional specialization. This is accomplished through line of business (LOB) domain boundaries and product specialty. Each LOB can focus on its unique product line and team with other LOB's to ensure that each aspect of the customers' needs are being met.

This new structure enforces the concept that technology requests be aligned with the overall strategic objectives of the agency. Furthermore, it can improve the supply chain metrics needed to deliver IT products in a timely fashion and with definable value to the customer. In a recent *Harvard Management Update* survey conducted by the Mercer Management consulting firm, senior executives indicated that they believe the *"customer relationship is the single most important source of competitive advantage at the dawn of the new millennium"*. Having the customer as a technology business partner is vital to the survival of information systems departments in the new millennium. But more so, having a structure which provides for the appropriate flexibility and adaptability to the ever-changing business and technology priorities is the remedy IS departments are seeking in the new millennium. The Y2K challenge centered our attentions on issues surrounding application compatibility, migration and their interoperability. Now that this challenge has been successfully met, we find that we can use this information to develop department application portfolios, system architectures and integrated statewide infrastructures.

These tools help support our efforts to develop an information strategy plan that is diversified, yet centralized. Application portfolios tell us how well diverse our systems are or need to be, and provide us with standards that can be used to support our system architectures and statewide infrastructures. In order to effectively manage the people, procedures and commitments represented in such a diverse portfolio, IS must be structured in a manner that promotes customer focus, teamwork and process improvement strategies. The attention given to customer focus has not only worked to improve our customer relationships, but is molding the goals and content of our information strategy plan. These efforts not only save time and money for IS, but increase the value information systems provide as a higher-rated commodity for our customers.

The following accomplishments listed below demonstrate MoDOT's Information Systems response and commitment to fulfill its customer-driven needs. In this list you will find that our applications and systems support the direction to be customer-focused and flexible. We believe the information systems are not only value-added tools that our internal customer benefit from by using them, but the public citizenry can benefit from by the value of information being provided to them.

Accomplishments

Transportation Management Systems (TMS)

Transportation Management Systems is an on-going project that was implemented in March 1999. TMS allows MoDOT to integrate data from multiple sources such as bridge, pavement, safety, traffic monitoring/congestion, outdoor advertising (billboards), junkyards and travelways. TMS allows MoDOT staff to graphically view and analyze data to make better decisions concerning preservation and construction of transportation systems. TMS is based upon a common location referencing system that utilizes software

to link graphical information to tabular information through the use of relational databases.

In the past year the following enhancements have been included in TMS: loaded all Missouri State Highway Patrol accident images into MoDOT's database allowing the capability to view the associated image to an accident from the on-line application or from an accident query; implemented the bridge on-line application that replaces the legacy mainframe system; implemented the Missouri State Highway Patrol Location Book on the web which allows law enforcement agencies to enter criteria specific to their roadway network; and implemented the State of the System Detail Report application.

Shared Technology Access Request Tracking System (STARTS)

We have completely automated the access request process for networks and applications with an in-house developed application entitled Shared Technology Access Request System or STARTS. The system allows a person's manager to request access to any network resource or application, and tracks the request through the approval and implementation process with automatic e-mail notifications sent to the next approver or administrator along the way.

To date we have tracked over 15,000 requests for systems access.

MoDOT Policy Manual

MoDOT replaced its many paper-based policy manuals with a new on-line MoDOT Policy Manual. This application serves as a repository for those manuals that have not been published electronically, and as a portal to the existing electronic policy sources. The new system includes an automated review and approval process, controlled access to draft and previous versions of policy, and provides version control.

Our Director, Henry Hungerbeeler, rendered all unpublished policy void by declaring the MoDOT Policy Manual as the only official source of policy for MoDOT, ensuring that all employees can quickly and easily locate the latest policy on any topic.

SitePad Field Data Collection

MoDOT is working with several other states and vendors to develop SitePad, a hand-held field data collection module for our current SiteManager application. This new application will allow inspectors in the field to record contractor forces and equipment, conditions, payment quantities, and project-related comments.

When the inspector returns to the office, the data is uploaded to the central server via the SiteManager client. This new application will help to collect more accurate and timely information as well as improve the productivity of inspectors.

Virtis System - Bridge Rating

The latest version of Virtis Software was implemented this past spring. Virtis is the American Association of Highway and Transportation Officials' (AASHTO) new product for bridge load rating, featuring state-of-the-art graphical tools to speed preparation of the data and application of the results. Virtis provides an integrated database where bridge rating inputs and outputs can be readily stored and re-used.

OPIS System - Bridge Design

Recognizing the great potential for reusing modular software developed in the Virtis project, MoDOT's Bridge Division is in the final stages of implementing OPIS bridge design software from AASHTO. OPIS allows Bridge Division engineers to design bridges utilizing the Load Rating Factor Design (LRFD) technique sanctioned by the Federal Highway Administration (FHWA).

Box Culvert Quantity Estimation

The Box Culvert Quantity Calculation program is entering it final stages of development with a planned production implementation date of February 2002. This program speeds up the design effort for bridge design engineers by automating the calculation of concrete and steel to be used in building a single, double or triple box culvert. This program is being developed for the World Wide Web and allows complete portability via a web browser.

Beam-Column Joint Design

The Beam Column Joint program was developed to aid structural designers in calculating the principal tension and compression stress in Beam-Column joints and to design the reinforcement for Beam-Column joints used in most bridges in Missouri. The implementation of this program will speed up the design and development effort in designing bridges while helping engineers produce more efficient and practical designs.

Missouri Off-System Bridge Inspection System (MOBIS)

MOBIS allows bridge inspectors in each county across the state the ability to access, add, and update bridge inspection information via the Internet. MOBIS is MoDOT's first interactive web application that allows private contractors to access and update inspection results on a central database, thus eliminating a lengthy manual process for compiling this information. This will allow Bridge engineers faster access to rating information and help to more quickly identify unsafe deterioration of Missouri's bridges.

Fleet Management System

MoDOT's Fleet system was implemented in November of 1997 and has been instrumental in tracking specific information regarding MoDOT's fleet. Warranty, service, repair, inspection and usage information is entered into Fleet from locations across the state providing up to date information.

Current activity in the Fleet arena involves upgrading of database and development environments with the latest version of software. This will allow MODOT to react quickly to changes needed in the equipment management area with the thought that the next step in the evolution of Fleet would be to a browser-based environment.

General Services Equipment Request

Development of the GS-5 Equipment Request database has proved to be a big time saver for General Services by automating the equipment request process from the districts to General Headquarters. Data is transported from this application to an Oracle database, giving MoDOT a uniform tool from which to generate reports and make budget decisions.

Right of Way Parcel Acquisition

Several changes were implemented in 2001 to increase the usability of our Parcel Acquisition application. With the use of data from the Parcel Acquisition System and the Financial and Chief Counsel systems, we were able to create a new reporting catalog for use by the Right of Way Division. Right of Way staff now use a new reporting/decision-making tool to develop much needed reports for use in the Right of Way acquisition process. With this project, we were able to retire parts of the mainframe legacy system and remove one more area of dependency on MoDOT's mainframe (which is due to be retired soon).

Financial Data Mart

A major release to the Financial Data Mart was completed in response to changes made to the statewide financial system. The Budgeting portion of the Financial Data Mart was also completed. Addition of data from the Budget Reporting Analysis Support System (BRASS) and HR Payroll System to the Financial Data Mart allows the department to better manage funds and assess performance.

Other enhancements improved the usability, reliability, availability and performance of the data mart. Providing knowledge workers with reliable, current information improves the quality of decisions made by the department and the eventual impact to people who use Missouri's roads and other modes of transportation.

Human Resources/Payroll Data Mart Implementation

A new Human Resources and Payroll data mart was implemented in January 2001. Having access to current personnel and pay data improves our ability to manage human capital resources. Since the implementation, additional enhancements have been made to improve the usability, reliability, availability and performance of the data mart, as well as provide additional reports.

Bond Fund

Changes were made to internal systems and financial interfaces to allow expenditures to be made from bond revenues. Tracking of expenditures from these funds is now possible. Revenue generated from bonds will help MoDOT improve taxpayer service in the form of better highways, bridges, and other transportation investments.

FHWA Billing Changes

The Federal Highway Administration (FHWA) implemented new billing and reporting systems during 2001. MoDOT made infrastructure and programming changes to accommodate the new systems. In FY01 MoDOT received FHWA reimbursement of approximately $600,000,000.

Retirement BackDrop Plan

Enhancements to the legacy retirement system will be implemented to reflect the changes of the new Retirement BackDrop Plan passed by the State Legislature earlier this year. These enhancements are planned for production in January 2002.

MoDOT Electronic Phonebook

MoDOT replaced its mainframe-based employee phone and location application with a new online MoDOT Phonebook application. This application serves as a repository for employee phone numbers and provides numerous searching and sorting techniques to make it easier to locate an employee within MoDOT. The new system eliminates the need to print and distribute numerous hard-copy reports, saving paper, printer, and distribution resources. The application also employs a data feed from the Human Resources/Payroll data mart so that the most up-to-date list of employees and locations is available.

Overtime Changes

To comply with the new Advantage Human Resources/Payroll system implemented in November 2000, new overtime policies were established at MoDOT. To assist with the administration of those policies, a new web-based system has been developed to update employee choice options for those employees eligible for overtime. This new benefit to many MoDOT employees will be implemented in January 2002.

Insurance System Enhancements

In order to comply with recent legislative and MoDOT policy changes, several modifications were made to the legacy insurance system. Modifications include changes in state paid life insurance, optional life, medical and HMO insurance options, Association Life, and Federal Medicare changes for 2001.

Bidding and Letting System Upgrades

A new version of the Proposal Estimating System and Letting Award System was placed into production in March 2001. This application is used by the Design Division for the bidding and letting of Highway and Transportation projects. This major upgrade moved the application server from an antiquated platform to the industry standard Microsoft NT platform. Many new features and reports were included. Also included was enhanced system enforcement of data integrity.

Project Amendment Tracking System (PATS)

This system tracks transportation projects that are in the MoDOT five-year construction plan. Annual processing and improved navigation programming were completed for this system.

Public Affairs Event Calendar

A new event calendar application for the Public Affairs division was implemented in December 2001. This system enables the assigning and tracking of various tasks by individuals and groups. The application includes e-mail notification of assigned tasks, sends reminders of tasks to the individual(s) when due dates approach, and also places the task on the individual's electronic to-do list.

Intelligent Transportation Systems (ITS)

Information Systems personnel have worked with other MoDOT personnel to design, implement, and support numerous components of MoDOT's ITS projects. Information Systems has provided IT assistance and support in the completion of the fiber optic network for Gateway Guide in St. Louis. This network will support over 40 road sensors, 20 cameras and 17 dynamic message signs along over 45 miles of Interstate that will be managed from a Transportation Information Center (TIC) to proactively manage emergency situations and dynamically route highway traffic around congested areas. The TIC is scheduled to be fully operational in Spring 2002.

Support for the Transportation Management Center in Springfield and the Branson TRIP web site has also been provided. Information Systems is also providing assistance and support for the KC SCOUT project that began construction in September 2001. This project consists of a fiber optic network to support road sensor, video cameras and dynamic message signs that will eventually cover the Interstate systems within the Kansas City area. The first phase will cover over 95 miles in both Missouri and Kansas. The sensors, cameras and signs will be managed from a Transportation Operations Center (TOC) that is also under construction. The first phase and TOC are scheduled to be operational in September 2002.

Wireless Networking of MoDOT Buildings

30 facilities connected using wireless technology to nearby network locations for an increase in productivity and reduction of costs. These locations were previously served by either unreliable dial-up connections or other WAN connections. In all cases, the link bandwidth was significantly increased and cost of the wireless equipment is expected to be fully recouped in less than one year, resulting in future cost savings from reduces dial-up costs or line leases.

Remote LAN (Dial-up) Services

Improved dial-up services for remote offices by implementing an in-house dial-up system. The improved reliability and increased speed enabled more efficient use of maintenance shed worker's time, off-setting a slight increase in cost.

Internet Access Restricted to Authorized Staff

MoDOT implemented Internet access authentication, site blocking, and reporting capability. This is the underlying technical solution needed to fully implement a new HR policy requiring management oversight of restricted Internet use by employees.

Online Analytical Processing (OLAP) Implementation

Installed a development and production environment for Online Analytical Processing. This enables IS to provide complex Business Intelligence applications. These applications will provide new insight into the business performance of MoDOT. For instance, one pilot application generated during this project and now in production, gives Right of Way the ability to track and analyze parcel acquisition from beginning to end.

Web Application Environment and MoDOT Web Site

Implemented a new environment for the delivery of applications to internal MoDOT clients as well as external MoDOT entities via a Web browser such as Microsoft's Internet Explorer.

A new style sheet, incorporating new background color and ADA mandated changes, has been applied to most pages on the MoDOT site, which has now grown to over 17,000 pages. This will allow for the easy change of these pages in the future, should it be needed. Also, the ability for individual Districts to have their own presence on MoDOT's site has been enhanced, allowing for the consistent application of our site standards to all pages.

Client Server Encyclopedia

Implemented a Client Server Encyclopedia for use by Applications Technologists. Its use in production will eliminate the ongoing expense of running on the mainframe. A

relatively quick payback is expected. Production implementation is expected soon after the first of the year.

Backup System Improvements

Hardware and software to upgrade the capability of MoDOT's Backup system has been purchased. Work this year included upgrading both client and server backup code to the latest levels. Early next year the purchased hardware will be installed. Hardware includes two new servers, a second Tape Library system and a Storage Area Network Director. System analysis indicates improvements have already significantly reduced the nightly backup time window. More improvement is expected when the new hardware is in place.

Service Consolidation

MoDOT has the opportunity to improve system-wide services, such as backup, storage provision and application processing, while saving significant expense, by more fully utilizing the capacity of the MoDOT WAN. Studies indicated the possibility to consolidate server hardware from MoDOT District offices into the Headquarters location without reduction in services. The research and planning phases of this consolidation effort was completed in 2001 with the implementation planned for the first half of 2002. This consolidation will incorporate several new information technologies, such as Fiber Channel connections among major system components and a Storage Area Network (SAN) based on advanced switch technology.

System Management Improvements

System management includes the ability to monitor, control and upgrade systems such as servers and client PCs. During 2001, significant progress has been made in normalizing the operations of the system management infrastructure of MoDOT. Nearly every MoDOT PC is connected to this infrastructure, enabling automated inventory and remote access of these machines. This ability greatly enhances the support and upgrade capability of IS. We now have a more consistent, standard procedure used to distribute software upgrades to the many servers located around the state in various MoDOT offices.

PC Installs

During the first half of 2001, we configured and delivered to internal customers more than 1200 desktop and 450 laptop PCs. Many of these were ordered late in 2000, yet the work to implement them occurred in 2001. In addition to these, approximately 850 new desktop and 350 new laptop PCs will be received from the vendor before the end of 2001, for delivery to internal customers in the year 2002.

Planned Projects

Transportation Management Systems (TMS)
We are currently developing the State Traffic Accident Reporting System (STARS) in conjunction with the Missouri State Highway Patrol. This system will be implemented in January 2002 and will allow MSHP to enter accident data directly into MoDOT's Safety Management System. MSHP will have access to the transactional and analysis databases to meet their business needs and to create statistical reports.

❑ An on-line pavement structure application is also being developed to allow MoDOT staff to enter the pavement component measurements, materials, dates and location. Reports associated with the pavement data will be created.

❑ Interfaces to and from MoDOT's Sign Inventory System are being developed to allow for the integration of sign data with other travelway data.

❑ The annual TRADAS processing program will be developed in house to replace an external program. This will allow for more internal control and efficiency. The interface will also include actual truck volumes as opposed to the calculated counts.

❑ We are developing a generic application to scan and view images for other areas within TMS. There are plans to develop a system to include data collection for Outdoor Advertising; such as digital pictures, laser measurements, GPS and inspection data.

Financial Data Mart Releases
A new release to the Financial Data Mart is planned for 2002. It will provide more information on fixed assets. Additional releases/upgrades are planned to continue to provide business users with essential data and to implement data warehousing best practices.

Electronic Communication Device Request System

A new Electronic Communication Device Request system will track all cellular phone and pager requests, approvals, and reimbursements. The system stores carrier plan information, allowing the system administrator to match each request with the best plan. This application is being developed and is scheduled for release in early 2002.

Governmental Accounting Standards Board (GASB) 34
MoDOT's Controller's Office will request changes to automated systems in order to comply with GASB 34. GASB 34 requires that state and local governments report on the value of their infrastructure assets, including roads, bridges, water and sewer facilities, and dams.

Indirect Construction Costs

An interface to the statewide financial system is proposed to calculate indirect construction costs for federal reimbursement. Indirect construction overhead could be allocated to projects.

First Report of Injury Electronic Data Interchange

Development began in August 2001 on a new application that will enable the Risk Management district offices to electronically transmit First Report of Injury Claims to the Department of Labor and Industrial Relations. This system will have a custom developed front-end that will allow the appropriate information to be imported into the RiskMaster software as well as use transmittal software to send claims to the Department of Labor and Industrial Relations.

Simplified FMS Data Entry

Information Systems performed the Feasibility Study and Analysis on a system that will simplify the data entry of accounting, payroll, and equipment usage data for personnel in the outlying maintenance buildings.

Help Desk Software

We began testing of IS Help Desk software in 2001. The Help Desk business rules were defined during this period. A new system to provide necessary functionality will replace existing obsolete help desk software.

Network Associates Total Service Desk software was selected by the Missouri State Office of Information Technology as a statewide help desk package in October, 2001. This move prompted MoDOT Information Systems Division to perform research on the feasibility of implementing this new product.

Service Consolidation Completion

As stated above, study results conclude significant funds can be saved by consolidating services at MoDOT General Headquarters. Projects within this scope will continue and are slated for completion in 2002.

Improve Database Backup Technology

In addition to improvements made in 2001, we will be installing a more cost effective replacement of our database backup software. This new software will allow us to do hot backups while the databases are still running.

Software Upgrades

In the spring of 2001 we completed one upgrade of Oracle to 8.1.6, and we are now in the process of upgrading Oracle to version 9i in order to maintain vendor support and to provide new functionality. The project should be completed by May of 2002. This will involve 35 databases on 15 servers at General Headquarters.

MoDOT will continue upgrades of current anti-virus products and implement new central management of the system. We will also migrate all desktop, laptop and server systems to Windows 2000/XP Operating System.

Print Tracking

Install a print monitoring/tracking system to enable the Machine Services Bureau to better account for the cost of LAN printing to MoDOT.

WAN Fiber Optic Replacement.

Recently purchased equipment will be deployed early in 2002 to replace obsolete equipment and to enable fail-over service across frame relay links. Changes in protocols will yield greater network throughput, and the new equipment will be serviceable, interoperable with current routers and therefore provide greater accessibility to central applications by district and remote office personnel.

Token Ring to Ethernet Conversion

Recently purchased equipment will be deployed early in 2002 to replace obsolete token ring architecture in seven district offices. Ethernet switching will provide greater network throughput and enable future technologies such as IP telephony.

IP Telephony Pilot

Test of a small system with approximately 10 IP phones is intended to inspire new approaches to telephony systems such as voice mail, unified messaging, automated call distribution, and the coupling of phone technology with PC technologies.

Video Conferencing

If funded, could reduce travel time and expenses by providing a meeting room feel for personnel in geographically dispersed locations. Closely related systems could provide desktop video conferencing between remote sites as an alternative to traditional phone use to improve communications between personnel.

Handhelds

Handheld computing devices become more popular everyday. Base Technology is working with customers to determine their needs and work towards department standards.

Accumulated Demand

MoDOT continues to have a significant backlog of IT requests. These requests come from all districts and functional units within MoDOT. Included in this backlog are requests for new software, updates to current software, requests for new hardware including PC desktops and laptops, and requests for new technology including palm-tops. The current estimated timeframe to complete the work represented by this backlog ranges from four to six years at an estimated cost between 36 and 56 million dollars.

Continued addition of information technology adds to the necessity of upgrading the infrastructure. Adding more systems and constant infrastructure upgrades results in an ever higher workload for IS staff. Restrictions on headcount along with mandates to reduce totals spent on salaries places more work on an already overworked staff. It is estimated that IS staffing should be increased by five to fifteen percent to reduce overtime and reliance on more expensive contract labor for non-project specific tasks and support.

Use of contracted consultants continues to rise as new projects are funded. Federal and State mandates must be met, and the associated automation changes must be made. Some cost-saving projects are being enabled through technology, and reliance on IS and IS staff will rise for the foreseeable future.

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Accomplishments

Linked Deposit System
A new Linked Deposit System went into production on December 3, 2001. The new application, developed with Microsoft Visual Basic, replaced the last existing system on our Burroughs mainframe system. The mainframe system required a costly maintenance agreement with a local hardware vendor for parts and the extension of a contract with a local consultant to maintain the system. The new application will save STO approximately $8,000 – 10,000 a month.

General Ledger Extraction
A new program was developed to extract the general ledger data from SAM II. The data was previously being extracted from SAMII to the desktop of the user. The user required an additional PC for the downloading of the data and was unable to query the data until the download was complete. The data is now extracted from SAM II to the server into a Microsoft SQL Server database. The end user does not require an additional PC and is able to query the data immediately.

ACH Recon
A new system was developed to allow the banking division to view the status of all ACH transactions via an Internet browser. The Microsoft Visual Basic application extracts the data from Firstar, the ACH contract holder, and makes that data available via a browser and a GUI (graphic user interface) front end. The banking division can reconcile ACH transactions using the front end. The system will eventually be available for other state agencies to view the status of ACH transactions via the browser interface.

Planned Projects

Collateral Tracking System
A system to determine if financial institutions holding State Treasurer's Office funds have sufficiently collateralized those funds as required by state law. STO currently

contracts with Central Bank for this service. The contract came due in December of 2001. STO has extended that contract for six months and will be developing the collateral tracking system in-house using Visual Basic and Microsoft SQL Server.

Check Inquiry System

A system to provide State Treasurer's Office staff, state agencies, and the public the ability to check the status of a state issued check. System would reflect the paid, outstanding, cancelled and stop payment status of a check. STO currently contracts with Central Bank for this service. The contract comes due in December 2002. STO will be developing the check inquiry system in-house using Visual Basic and Microsoft SQL Server. The system is our first application involving the E-Government initiative.

Missouri Dollars & Sense

A system to register banks and schools online via an Internet browser. The system would match banks with schools and teachers for the Missouri Dollars & Sense program. The system will also allow the Missouri Dollars & Sense administrator the opportunity to manage the system online using a Visual Basic front end. The administrator is currently managing the system with a spreadsheet.

Accumulated Demand

The State Treasurer's Office has a significant backlog of IT requests. The requests include in-house application development, network administration, technical services and software and hardware troubleshooting. The requests vary from simple to complex. The complex requests have been designated as actual projects. Besides the projects already mentioned in this document, the STO plans to upgrade mail software, allow access to email via the Internet, upgrade desktop operating systems and desktop software, and implement a help desk operating system.

Security issues and virus protection continue to be a high priority for the STO/IT division. IT troubleshooting and technical services have increased due to the limited amount of resources to respond to both security and day-to-day requests.

The demands for in-house applications are increasing for STO. With in-house programmers available in IT, the STO divisions are considering in-house application solutions instead of packaged products that don't meet the needs or contracted services that are high in cost.